

AUGUST, 1952

AUG 25 '52

117

Commercial Refrigeration AND AIR CONDITIONING

REFRIGERATION SELLS WINE Page 32

PROFITS IN COMMERCIAL KITCHEN VENTILATING Page 34

WHAT ABOUT PARTNERSHIPS? Page 36

"HOT AIR" NEEDS TO BE COOLED Page 38

HINTS ON MOTOR MAINTENANCE Page 43

A HOUSE-FULL OF SALES IDEAS Page 48

MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT

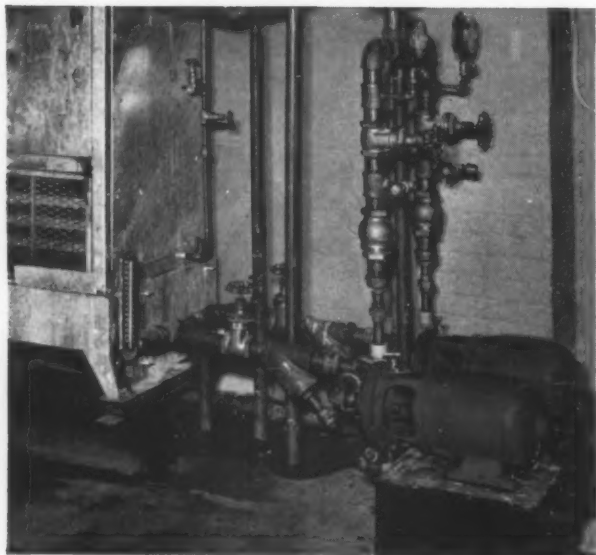


AND INGERSOLL-RAND MOTORPUMPS FOR AIR CONDITIONING GIVE YOU MORE THAN TROUBLE-FREE SERVICE

Air conditioning contractors who have installed Ingersoll-Rand Motorpumps on thousands of different air-conditioning units tell us these rugged pumps stay on the job with surprisingly little maintenance. You put them in . . . then forget them. They are remarkably easy to install. They operate equally well in any position, with no special foundations needed. Further, whenever these contractors had headaches fitting large pumps into small air conditioning units, they liked the compactness of Ingersoll-Rand Motorpumps.

An outstanding feature of I-R Motorpumps is their amazing efficiency. On the job they have proved to be the leader in their horsepower range.

These Motorpumps are available now for immediate delivery out of warehouse stocks. Your nearest Ingersoll-Rand representative has all the facts and figures you may need. Call him in now, or write us for the new booklet, "A Picture of the I-R Motorpump Line for Air Conditioning", Form No. 7177. INGERSOLL-RAND COMPANY, 11 Broadway, New York 4, N. Y.



Two 5 hp Ingersoll-Rand Motorpumps
at work on an evaporative cooler.

MOTOR PUMP

. . . designed for

AIR CONDITIONING SERVICE

available now for immediate delivery
in a wide range of sizes!

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

793-9

Circle No. 1 on Reader Service Card for more information

ALCO VALVES had something to do with this

2



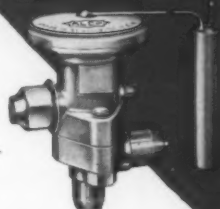
ALCO VALVES help refrigeration systems operate at peak efficiency. They keep produce, meats and dairy foods "just right" for the chef's approval.

ALCO 402 TYPE—miniature, universal valve for display cases, deep freezers, milk coolers, blower coils. Pressure limiting for motor protection. Easy to install and service.

ALCO MULTI-OUTLET THERMO VALVES—assures equal distribution of refrigerant on multiple circuit systems. For all refrigerants and applications: ½ to 50 tons "Freon-12", 2 to 36 outlets.

ALCO "T" SERIES—easy to service on the line. Comes apart in three simple steps. External super-heat adjustment. For all temperatures and all refrigerants: ½ to 50 tons "F-12".

ALCO SOLENOIDS—tight-seating; give accurate temperature control.



3

SEE YOUR ALCO WHOLESALER



Designers and Manufacturers of Ther-
mostatic Expansion Valves; Evaporator
Pressure Regulators; Solenoid Valves;
Float Valves; Float Switches.

ALCO VALVE CO.

843 KINGS LAND AVE. • ST. LOUIS 5, MO.

AUGUST, 1952

VOLUME 9, No. 8

Commercial Refrigeration

AND AIR CONDITIONING

Established 1944 as
THE REFRIGERATION INDUSTRY

THIS MAGAZINE has no
official affiliation with ANY
group, society or association.

IRVING B. HEXTER
President

LESTER P. AURBACH
Executive Vice President

EDWIN M. JOSEPH
Vice President

THEODORE T. QUINN
Managing Editor

JAMES R. McCALLUM JR.
Editor

WARREN W. FARR
H. S. McCLOUD
Editorial Advisers

EDWIN M. JOSEPH
Circulation Director

Address communications to
COMMERCIAL REFRIGERATION
AND AIR CONDITIONING

1240 Ontario Street
Cleveland 13, Ohio
Phone: Superior 1-9622
Teletypewriter: CV-233

SALES OFFICES

NEW YORK 17
LEE HAAS
60 E. 42 Street
Room 803
Murray Hill 7-3420

CHICAGO 11
F. P. MIGNIN JR.
520 N. Michigan Ave.
Room 734
Whitehall 3-1655

LOS ANGELES 17
FRED W. FRISENFELDT
1250 Wilshire Boulevard
Room 607
Tucker 6703

LONDON, E.C.4, ENGLAND
JOHN A. LANKESTER
5 New Bridge St.
Fleet Street

IN THIS ISSUE

FEATURES

REFRIGERATION SELLS WINE.....	32
POINTING TO PROFITS!.....	34
WHAT ABOUT PARTNERSHIPS?.....	36
"SPECIALTY" COOLING MEANS PLUS BUSINESS.....	37
"HOT AIR" NEEDS TO BE COOLED.....	38
INSULATION WALL AIDS COLD STORAGE EXPANSION.....	42
HINTS ON MOTOR MAINTENANCE.....	43
A HOUSE-FULL OF SALES IDEAS.....	48

DEPARTMENTS

About People.....	40
BTU's	31
Commercial Refrigerator Sales News.....	46
Contractor News.....	77
The Heating Side of Air Conditioning.....	82
Here's How	89
It's the Law!.....	17
Letters	92
New Products	58
Opportunities	95
Practical Refrigeration Applications Manual.....	87
Refrigeration Industry News.....	51
Useful Literature.....	56
Index to Advertisers.....	96



Published monthly by REFRIGERATION PUBLICATIONS, INC., an affiliate of INDUSTRIAL PUBLISHING Co., publishers of APPLIED HYDRAULICS, FLOW, INDUSTRY & WELDING, OCCUPATIONAL HAZARDS and PRECISION METAL MOLDING. Member, Controlled Circulation Audit, Inc. Not responsible for unsolicited editorial material.

Subscription rates: United States and possessions—\$3.00 per year, \$5.00 for 2 years; Canada—\$4.00 per year, \$6.00 for 2 years; Single copy price, 30 cents. Foreign subscriptions \$5.00 per year, except the United Kingdom. United Kingdom subscriptions £1.10 per year, payable in Sterling to our London Office. All subscriptions subject to individual acceptance by the publisher. Acceptance under Section 34.64, PL&R, authorized at Milwaukee, Wisconsin. Copyright, 1952, by Refrigeration Publications, Inc.



The Name that Signifies
the Best Value
for Your Dollar

Has, by special arrangement with the **STAR METAL MFG. CO., INC.**, designed and mass-produced a new, complete line of all-metal, welded refrigerators, with lustrous stainless steel fronts, and natural aluminum finished ends and interiors. The **GLENCO CORPORATION** offers the dealer and consumer, Quality Refrigeration, at New Low Prices.

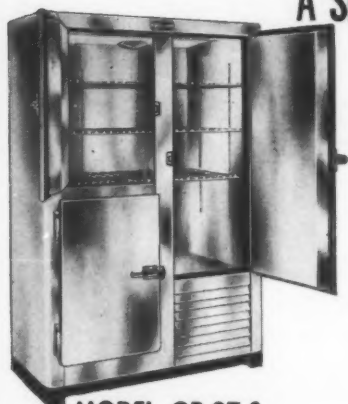


MODEL GR-22-S

Cap.—22 C.F. L.—48" D.—24" H.—70"

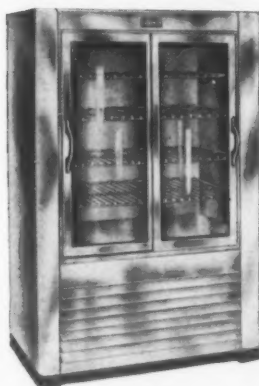
A Show Window Under Refrigeration!

GLENCO Display Refrigerator



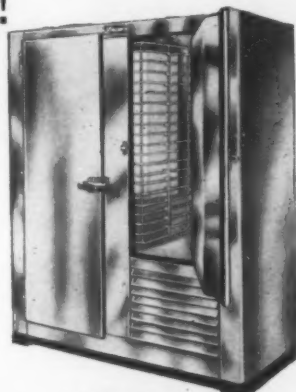
MODEL GR-27-S

Cap.—27 C.F. L.—54"
D.—24" H.—74"



MODEL GS-37-S

Cap.—37 C.F. L.—54"
D.—32½" H.—74"



MODEL GD-42-S

Cap.—42 C.F. L.—54"
D.—32½" H.—74"



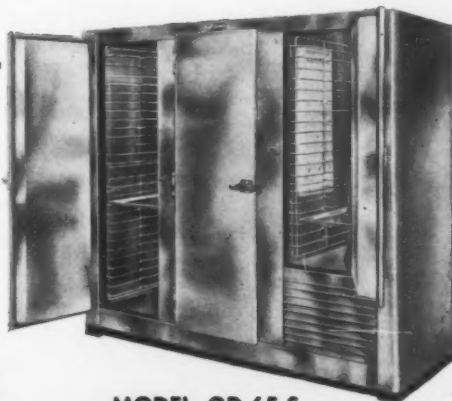
MODEL GR-65-S

Cap.—65 C.F. L.—80"
D.—32½" H.—74"

SHOWING
MEANS
SELLING!

★
BUY A SAMPLE
LINE TODAY!

★
Write for the New
CATALOG G-1
Now!



MODEL GD-65-S

Cap.—65 C.F. L.—80"
D.—32½" H.—74"

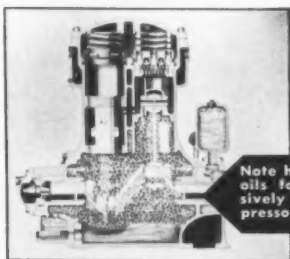
GLENCO REFRIGERATION CORP.

JANNEY and ANN STREETS
PHILADELPHIA 34, PENNA., U.S.A.

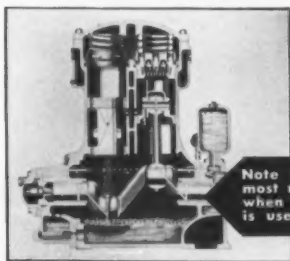
..now.. ..ANSUL OIL IS NON-FOAMING!



**NOTE THE DIFFERENCE BETWEEN
ORDINARY OILS...WHICH FOAM
... AND ANSUL NON-FOAMING
REFRIGERATION OIL**



Note how ordinary oils foam excessively when compressor starts.



Note there is almost no foaming when ANSUL OIL is used.

When a compressor starts, the surge of the refrigerant causes ordinary oils to foam. This results in a loss of oil from the compressor and causes other harmful effects in the system. ANSUL NON-FOAMING OIL eliminates the problems which result from foaming and thereby insures maximum lubricating efficiency.

NOW . . . MORE THAN EVER . . . ANSUL is the **FINEST REFRIGERATION OIL at any price!** In addition to the features which have made it outstanding in the past . . .

High Lubricity, High Stability, Low Moisture, and Low Wax . . . a new and vital improvement has been made

. . . ANSUL OIL IS NOW PROCESSED TO PROVIDE NON-FOAMING CHARACTERISTICS . . . a distinct advancement in the science of refrigeration lubrication.

Here are some of the advantages provided by the NON-FOAMING characteristic of ANSUL OIL:

- INSURES MAXIMUM LUBRICATION.
- IMPROVES EVAPORATION EFFICIENCY.
- PREVENTS DAMAGE TO COMPRESSION VALVES.
- REDUCES DANGER OF PLUGGED CAPILLARIES.
- REDUCES DEPENDENCY ON OIL SEPARATORS.

ANSUL is the **LARGEST SELLING REFRIGERATION OIL** sold through Refrigeration Wholesalers . . . **EXCLUSIVELY.**

And there are many other reasons why refrigeration men persistently prefer ANSUL.



ANSUL
Chemical Company

REFRIGERATION DIVISION • MARINETTE, WISCONSIN

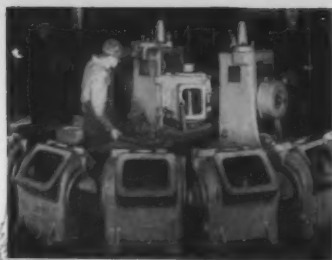
ANSUL SULFUR DIOXIDE • ANSUL METHYL CHLORIDE • ANSUL OIL • KINETIC "FREON" REFRIGERANTS
ALSO MANUFACTURERS OF INDUSTRIAL CHEMICALS AND DRY CHEMICAL FIRE EXTINGUISHERS

Circle No. 4 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION



Inside the Brunners you sell are valve plates precision-lapped by skilled craftsmen to assure perfect leak-free sealing.



On the Brunner commercial refrigeration assembly line the only watchword is "Quality first—then volume."



To meet the Brunner standard of long service life, wearing surfaces are heat treated and hardened under watchful eyes.

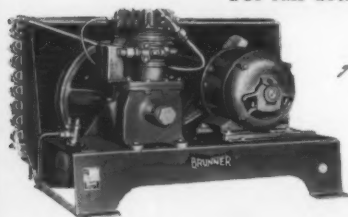
These Inside Advantages

have sold **BRUNNER** in every block

Check over the prospects for refrigeration in your district—supermarkets, department stores, bar and grills, drug stores, food and manufacturing plants—in every block you'll find these and others too. Whatever the business they *all* buy on the basis of dependable performance...of built-in high efficiency. That's a tremendous help when you sell Brunner, the refrigeration equipment with a long list of "inside" design and construction advantages. Let us show you these features and how they simplify matters for you in sales, installation, and servicing.

Brunner stands at your side with experienced factory field men to help you when you want assistance.

For full details, write us today.



A size and type for every purpose

BRUNNER MODEL A-300 Air Cooled Refrigeration Condensing Unit (illustrated) is one of 69 air and water cooled models from 1/4 hp. to 75 hp. designed to meet virtually every requirement, including low temperature applications down to -140°F.



COMMERCIAL REFRIGERATION

BRUNNER MANUFACTURING CO., UTICA 1, NEW YORK, U. S. A.



AIR CONDITIONING
Self Contained Units to 10 hp.
For remote installation...Brunner Condensing Units to 75 hp.



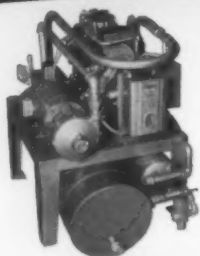
REFRIGERATION
Condensing Units from 1/4 hp. to 75 hp. 69 Air and Water Cooled Models.



AIR COMPRESSORS
Single stage 1/4 hp. to 2 hp. Two stage 1 1/2 hp. to 15 hp. Horizontal and Vertical Models.



Circle No. 5 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952



FLOW-COLD* LIQUID CHILLERS

Self-contained, compact and efficient Units, furnished completely wired and with refrigerant piping completed at the Factory. For Industrial applications or for Residential uses, ACME FLOW-COLD Units are simple and easy to install and will give lowest cost, most efficient cooling. Can be used for Heat Pump application where a suitable heat source is available.

Acme
products

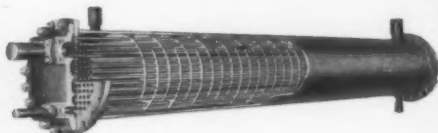
**tailored to fit
every kind of
LIQUID CHILLING or
WATER COOLING JOB**



UXR DRY-EX* WATER CHILLERS

For smaller loads, ACME has available the UX and the UXR type DRY-EX models, with both fixed and removable tube bundles. For applications involving brine, glycols, liquid sub-cooling or inter-stage condensing, consult factory for additional information and recommendations.

In selecting the most efficient equipment to perform a specific job of refrigeration, your task is greatly simplified when you specify "ACME" — for the ACME line is complete enough to give you a suitable ACME Product, for every kind of Residential or Industrial chilling or liquid cooling requirement. And you are certain of getting the most practical, maintenance-free, low cost operation, for ACME equipment has been preferred in the, heavy Refrigeration Industry for more than 30 years.



ACME DRY-EX* CHILLERS

For brine, alcohol, water or any low viscosity fluids. There are more than 700 combinations of refrigerant heads, baffle spacings and tube lengths. The most efficient direct expansion, shell and tube units offered to the Refrigeration Industry in the last 10 years.

ACME ALSO MANUFACTURES: EVAPORATIVE CONDENSERS • FREON CONDENSERS • AMMONIA CONDENSERS • SHELL AND COIL CONDENSERS • SHELL AND TUBE CONDENSERS • FIN COILS • PIPE COILS • COOLING TOWERS • OIL SEPARATORS • LIQUID RECEIVERS • HEAT EXCHANGERS

HI-PEAK* WATER CHILLERS

Are offered in seven standard sizes, for intermittent or continuous operation. HI-PEAK Water Coolers have large storage capacity and are galvanized after fabrication. Factory Insulation optional. Equally efficient for use with Freon or Ammonia, require a separate Compressor, as it is not a self-contained cooling unit.



Acme

INDUSTRIES, INC. JACKSON, MICH. U.S.A.

CONTINUOUSLY SERVING THE REFRIGERATION INDUSTRY SINCE
Circle No. 6 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

WHY *DESTROY*

Expensive Equipment

by using

Destructive

Substances?

Chemicals that **EAT** their way out of Metal, Wood or Plastic Containers are injurious to the very surfaces that they are intended to treat. If a glass container should be accidentally broken, the contents could do untold damage to valuable property!



SOLVEX

(In tablet or granular form)

LOWERS HIGH HEAD PRESSURE QUICKLY
(And May Be Used While Plant Is In Operation)

REMOVES RUST, SCALE, ALGAE
And Other Encrusting Matter from Condenser
Tubes and Water Jackets in 1 to 5 Days.

CLEANS SCALE AND CORROSION FROM
EVAPORATIVE CONDENSERS, BOILERS,
HEATERS, TANKS . . . AND KEEPS 'EM CLEAN!

BE SAFE! USE SOLVEX!

ECONOMICAL AND SAFE TO CARRY TO CLEANING JOBS

SOLVEX Is A Very Effective CLEANING AGENT
FOR AIR CONDITIONING and REFRIGERATION SYSTEMS

Manufactured By

CHEMICAL SOLVENT COMPANY

3005 16th Street North, Birmingham, Alabama

Distributed By

VIRGINIA SMELTING COMPANY

West Norfolk, Virginia

Have you discovered

FREEZERS

ICE CREAM CABINETS
HARDWARE CABINETS
UPRIGHT FREEZERS
BASKET FREEZERS
SLIDING GLASS DOOR
FREEZERS
ARCTIC CHAMBER
FREEZERS
OPEN FREEZERS
FULL VISION BASKET
FREEZERS
STORAGE FREEZERS

WALK-IN BOXES

TWO TEMPERATURE
WALK-IN
LOW TEMPERATURE
WALK-IN
WALK-IN WITH
REVERSIBLE DRUMS

ICE CUBE MAKERS

QUICK RELEASE
UP TO 24 TRAYS
ALSO
AUTOMATIC ICE MAKERS

REACH-IN BOXES

TWO TEMPERATURE
REFRIGERATION
STAINLESS
ALUMINUM
WHITE ENAMEL
DOOR RETARDERS

DISPLAY CASES

OPEN AND CLOSED
BASKET WALL CASES
STANDARD AND SLANTED

AIR CONDITIONING

SELF CONTAINED AND
REMOTE UNITS

STAINLESS STEEL RESTAURANT EQUIPMENT

SINK FRIGIDAIRS
STAINLESS STEEL
DRINKING STATIONS
SANDWICH BUILDS
DIESEL WIRE CAGES
STAINLESS STEEL
PANELING
WATER COOLERS

BEER SYSTEMS

BASKET DRAW SYSTEMS
BEER COOLERS
TAPKEY HORN BENCHES
BEER PUMPS
ACTIVATED CARBON
FILTERS FOR PUMPS
COKE WALK FOR
BASKET DRAWING
FITTING AND SUPPLIES
BEER CLEANSING SYSTEMS

TUBING

STAINLESS STEEL
BUSHING PLASTIC
FACETS-BEER-WATER-
SOLVENT
3" Ventilation Flexible
Steel Air Hose For
Direct Beer Beer Jobs
Blowing Air-AIR BLOWERS
BEER PUMPS
TAPS AND BUCKETS
WALL BRACKETS

BOTTLE COOLERS

REMOTE
SELF-CONTAINED
COMBINATION COBE MAKER
AND BOTTLE COOLERS
STAINLESS STEEL TAPKEY
BOTTLE COOLERS

Many dealers have found discovering FRIGITEMP has been very profitable to them, by making use of our "knowledge" and "know-how" in the refrigeration equipment and supply field.

Not only do we carry tremendous inventories, our custom department will make any piece of commercial equipment to order. You may need a very narrow Reach-In box or an extra small Soda Fountain, an odd shaped Display Case, or a Multi-Purpose Fixture, even if it hasn't been made before we will gladly make it up for you to your specifications out of Stainless Steel, Porcelain or any other materials.

We have a special Beer and Carbonated Beverage division and can supply any equipment required in this field, including our own very popular Direct Draw Keg Coolers in any combination.

We sell hundreds of our own famous (Beer Saver) Direct Draw Systems, an inexpensive easy-to-operate fool-proof system for direct draw of draught beer.

If there is something you need in a hurry, the chances are that we have in stock...can get it...or we will make it for you. Our own controlled sheet metal shop will make any piece of Restaurant, Tavern or Commercial piece of equipment to order. Our Wood Walk-In plant will make any Normal, Low Temperature or Two Temperature wood walk-in to your specifications—rapidly.

All of these services are made available by top FRIGITEMP management who believes that a wholesale refrigeration house...must be of service at all times...must be staffed with responsible personnel to handle any and all problems that may arise...and not only the easy problems!

That is why FRIGITEMP is trying to take in as much as possible in our field in order to SERVE YOU BEST!

REMEMBER! We can make any piece of equipment to order, in any size, shape or material.

REMOTE AND SELF-CONTAINED COMBINATION BOTTLE COOLERS AND CUBE MAKERS



A multitude of satisfied users have the popular FRIGITEMP Combination Bottle Cooler and Cube Maker. You will be missing plenty if you do not stock and sell these units. They really do a grand job for bottle cooling and cube making.

Available in 4 and 6 ft. lengths and comes supplied with the latest model inboard trays.

ACT TODAY!!... MAKE FRIGITEMP YOUR SUPPLY HOUSE FOR ALL OF YOUR REFRIGERATION REQUIREMENTS AND SEE HOW THE PROFITS WILL ADD.

WRITE FOR ILLUSTRATED LITERATURE AND PRICES!

FRIGITEMP corporation

931 Bergen Street Brooklyn 16, N. Y.
MAin 2-9093

FRIGITEMP corporation

NEW STAINLESS STEEL BAKERY FREEZERS WITH HOT GAS DEFROST UNIT—COMPLETELY AUTOMATIC



Look at this remarkable feature...to get Automatic Defrost, all you do is run the lines into the fixture from machine, all necessary controls and hook-ups have already been completed for you.



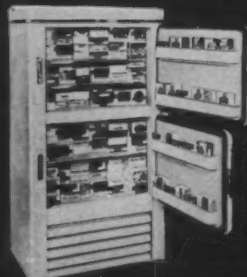
IT'S NEW FROM THE GROUND UP! IT'S SPECIALLY DESIGNED TO KEEP BAKED GOODS AT PEAK FRESHNESS LONGER!

All stainless steel exterior and interior helps to keep the cold air in the heat out. Heater strip along door opening to eliminate condensation. There are 15 pans in a door opening with stainless steel racks.



FOOD PLAN OPERATORS — TWO DOOR 18 CU. FT. HOME UPRIGHT FREEZER

YOUR ANSWER TO COMPETITION



This home freezer requires less floor space and freezes faster. Will go through small door openings easily.

Features to talk about: Heavy duty baked enamel interior and exterior. Flashy chrome trim around door edges. Easy swinging doors with extra storage shelves. All steel welded construction for durability.

THE F-18 HOME FREEZER EASES ALL SALES RESISTANCE

CALIFORNIA REDWOOD WALK-IN BOXES



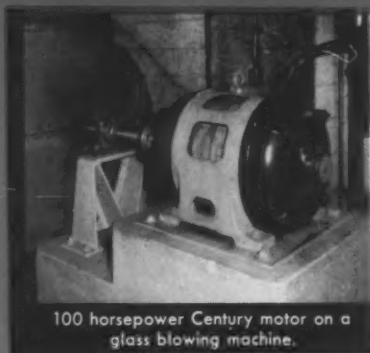
We at FRIGITEMP believe we have the perfect wood walk-in box. Custom built, prefabricated and completely clad with GENUINE CALIFORNIA REDWOOD, inside and out.

Now you get a wood walk-in that is not only very beautiful, yet it will last for a lifetime! Redwood is called the everlasting wood. With the use of Redwood you don't have to use metal boxes. It cannot corrode, discolor or get gunk marked...you get all the benefits of additional insulation that is in wood.

Easy to erect and add along side too...there is nothing better than a CALIFORNIA REDWOOD WALK-IN BOX from Frigitemp!

Circle No. 8 on Reader Service Card for more information

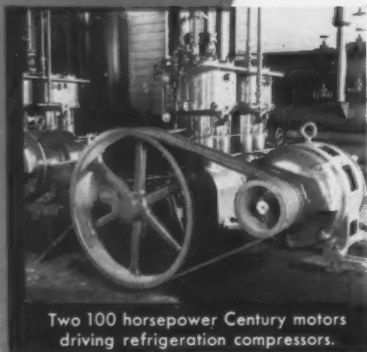
AUGUST, 1952 • COMMERCIAL REFRIGERATION



100 horsepower Century motor on a glass blowing machine.

WHY *Century* MOTORIZED EQUIPMENT KEEPS YOUR CUSTOMERS SATISFIED...

The motor specifications—where skillfully selected—to assure the **TOP PERFORMANCE** and **DEPENDABLE QUIET SERVICE** that is built into each class of equipment.



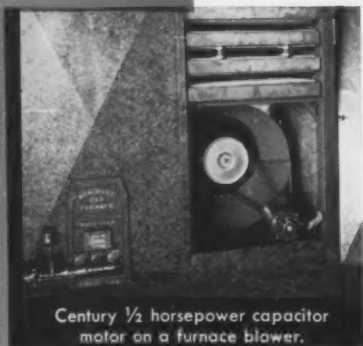
Two 100 horsepower Century motors driving refrigeration compressors.

Refrigeration compressors require one combination of operating characteristics and specifications—fans and blowers another combination—various types of heating equipment still another.

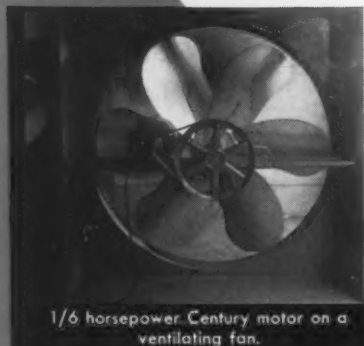
In over 50 years, Century has developed a wide line of types of motors with literally hundreds of specifications to choose from. It is easy to **ENGINEER YOUR PRODUCT PERFORMANCE—THROUGH SKILLFUL MOTOR APPLICATION.**

If you have motor service problems, phone or write to any of Century's 28 District offices regarding Century's national network of service stations—the motor exchange plan will serve you whether your motors are in or out of warranty.

Specify Century Motorized Equipment—get top equipment performance—dependable quiet service—keep your customers satisfied.



Century 1/2 horsepower capacitor motor on a furnace blower.



1/6 horsepower Century motor on a ventilating fan.

CENTURY ELECTRIC COMPANY
1806 Pine Street • St. Louis 3, Missouri

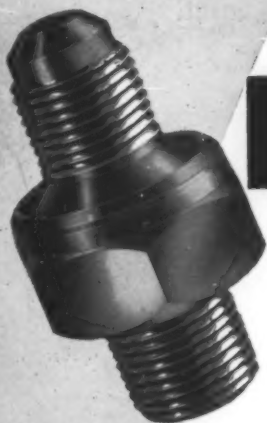
Offices and Stock Points
in Principal Cities



Circle No. 9 on Reader Service Card for more information

LEAK-PROOF PRESSURE PROTECTION

*for Your Refrigeration
and Air Conditioning
Systems*



BS&B Sealed-Type SAFETY HEADS

Smooth operation under normal conditions, positive protection against refrigerant leakage, plus *instant* pressure relief in an emergency—that's what BS&B Sealed Type Safety Heads guarantee your refrigeration or air conditioning systems.

The factory sealed assembly, consisting of a brass body and a fine silver, non-corrosive rupture disc, is given a five minute Freon leak before shipment. Sealed Type Safety heads are guaranteed against pressure or refrigerant loss under normal operation—until a pre-determined over-pressure develops. At this point the disc ruptures and the pressure is instantly released—saving expensive equipment from damage.

The non-mechanical feature of BS&B Sealed Type Safety Heads means virtual elimination of any maintenance as far as this part of your system is concerned. Sealed Type Safety Heads comply with code requirements and are accepted by cities operating under the ASME or ASA B9 codes. They have been accepted by leading refrigeration manufacturers for factory installation in their systems.

Dept. 2-BU8

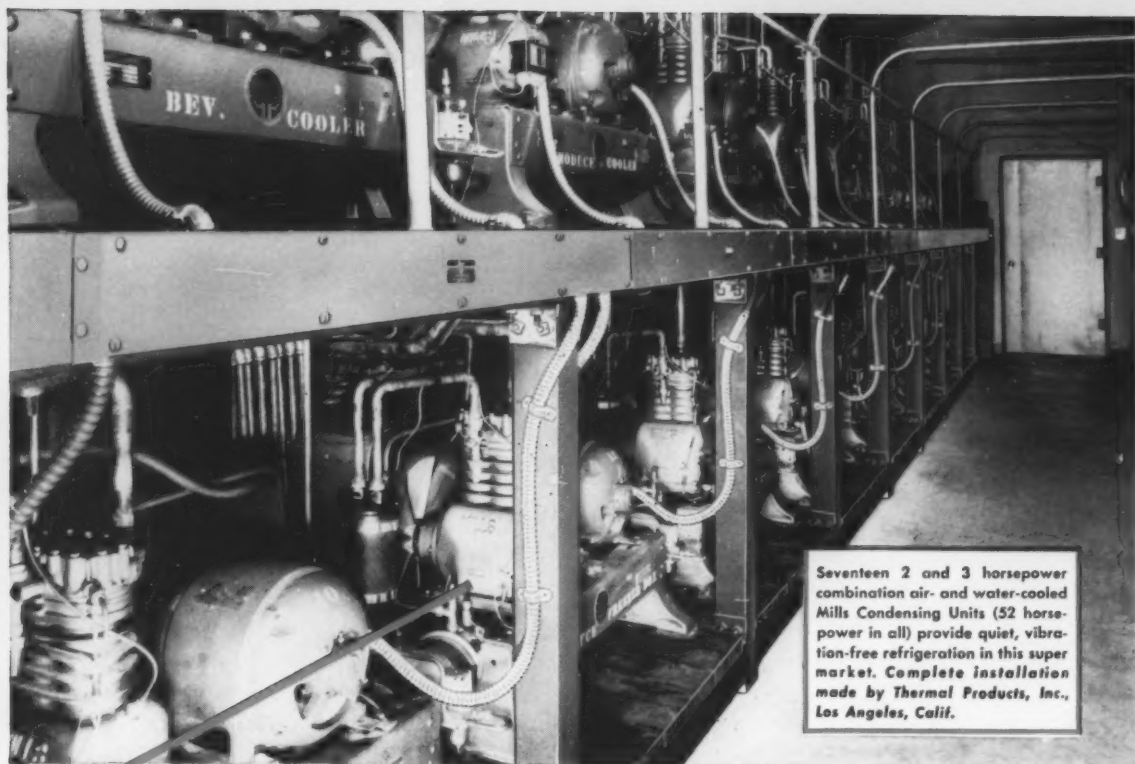


BLACK, SIVALLS & BRYSON, INC.

7500 East 12th St.

Safety Head Division

Kansas City 3, Mo.



Seventeen 2 and 3 horsepower combination air- and water-cooled Mills Condensing Units (52 horsepower in all) provide quiet, vibration-free refrigeration in this super market. Complete installation made by Thermal Products, Inc., Los Angeles, Calif.

HERE DEPENDABILITY IS OF PRIME IMPORTANCE

MILLS LONG-LIFE UNITS

The superior performance provided by Mills Units is the result of top-flight design, ample use of selected materials and precision construction.

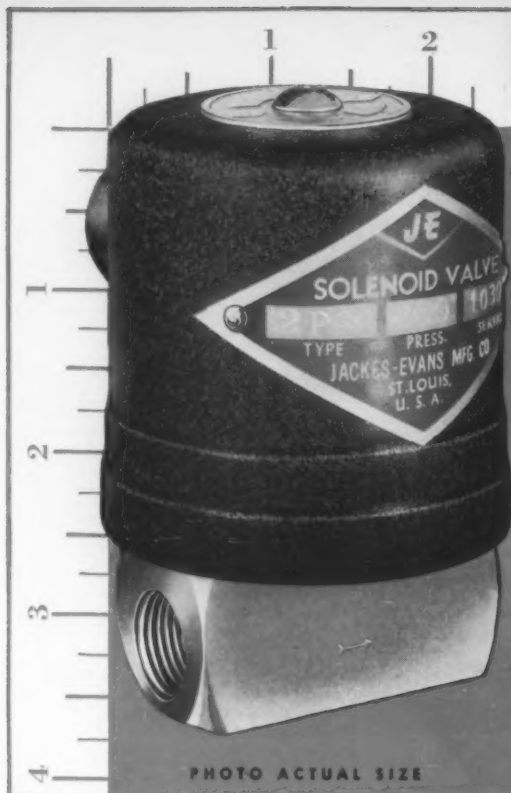
Proven in service for 18 years, Mills Units from $\frac{1}{4}$ to 10 H.P. give you a complete range to meet the majority of all refrigeration and air conditioning requirements. You can depend on Mills Units for matchless performance and operating economy year after year. It will pay you to investigate Mills Units now.

MILLS INDUSTRIES, Incorporated

4100 Fullerton Avenue, Chicago 39, Illinois



Descriptive literature mailed on request. No obligation.



Now-
a "VEST POCKET" Size!



SOLENOID VALVE

Types 2P2 and 2P3
(Patent Pending)

With Large Capacity—Quiet Operation—High Opening Pressure—and Tight Seating Over a Wide Pressure Range

Compactly designed for easier installation and maintenance—even in the tightest spots. Quiet operation over an extra-wide range of inlet pressures, from ½ P.S.I. to 250 P.S.I. Suitable for Air, Gas, Light Oils, Water, F12, F22, and other non-

corrosive fluids, at temperatures up to 200° F. Silent, synthetic rubber seating disc is easy to replace, when necessary, because of the valve's simple come-apart construction. Investigate this efficient new JE Solenoid Valve.

Available in
two connection sizes:

1/4" F.P.T. (Type 2P2)

3/8" F.P.T. (Type 2P3)

★
**Unconditionally
Guaranteed for
18 Months**

May we submit samples for
your test and approval?
Write today for details.

ALL JE Solenoid Valves Have These 5 Major Features of Dependability —

- Tight Seating — no bubble tolerance
- Simplicity — only two moving parts
- Long Life — cool coils
- Durability — all corrosion-resistant material
- Opening Pressure Differential — higher than most others on the market

JACKES-EVANS MANUFACTURING COMPANY
CONTROLS DIVISION
4427 GERALDINE AVE. • ST. LOUIS 15, MO.

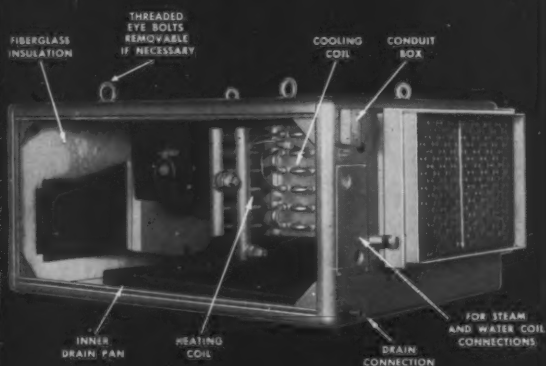
Circle No. 12 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

Economy Market
New Brighton, Pa.
Contractor, Valley Refrigeration
New Brighton, Pa.



These Bush conditioners make a market "Super"



Shop in comfort, work in comfort. Economy Market of New Brighton, Pa., offers conditioned air to customers and employees alike. Six row deep Bush Comfort Conditioners handle the comfort cooling requirements of an average of 300 people per hour. For the heating season two row hot water coils in each unit provide a convenient and economical heating system.

For offices, stores, shops, beauty parlors, restaurants, transportation terminals, taverns, the Bush Comfort Conditioner is the ideal solution to the problem of high quality, low cost air conditioning.

Bulletin 530, free upon request, contains complete data.

Bush Manufacturing Company

WEST HARTFORD 10, CONNECTICUT



Circle No. 13 on Reader Service Card for more information

*"I specify NIBCO close-ruff els
- because they take
less heat to sweat!"*



"LESS HEAT! I should have said far less.

And that saves me time on the job. These fittings take to solder just like the tube does because they're made from tubes. Solder cups, always *fit* the tube just right. As I see it this makes faster, sounder joints. At the same time I keep my bids competitive without losing my profit. That's why I always specify 'NIBCO' when I order fittings from my jobber."

NORTHERN INDIANA BRASS CO., 814 Plum Street, Elkhart, Indiana



NIBCO

WROTE FITTINGS FROM TUBES

Circle No. 14 on Reader Service Card for more information

PERFORMANCE PROVES THE **Jordon** BEST!



Jordon OF-10M

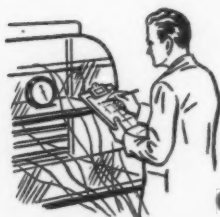
Gives you greater frozen food display per square foot of floor space. A proven sales builder.



Jordon D54-M

Builds volume sales of milk and other dairy products. Increases store traffic and profits.

You sell with confidence when you sell the Jordon line. The performance of Jordon refrigerators and freezers has earned the praises of users everywhere. In design, construction, operation and price, Jordon stands out among the leaders. Remember, it's performance that sells!



JORDON QUALITY CONTROL

Every step in manufacturing is supervised by experts right in Jordon's big, modern plant. And before leaving the factory, every Jordon product must pass the industry's—and Jordon's—highest standards.

Call, write or wire for information
on the complete Jordon line

Jordon

REFRIGERATOR COMPANY
58th & Grays Ave., Phila. 43, Pa.
Exclusive Export Rep.: Joseph Miller • 11 Broadway • New York 4, N.Y.



It's Jordon... it's Reliable Refrigeration

To give you
PEAK PERFORMANCE
ON ALL INSTALLATIONS...

Sporlan

pioneered
**SELECTIVE
CHARGES**

on Thermostatic Expansion Valves

"C" CHARGE
for
SUCTION TEMPERATURES
ABOVE ZERO

"Z" CHARGE
for
SUCTION TEMPERATURES
BELOW ZERO

plus - **"G" Charge** for COMFORT COOLING
"X" Charge for EXTREMELY LOW TEMPERATURES

SPORLAN FIRST to introduce "C" and "Z" selective charges for thermostatic expansion valves...1934...today the symbols of the industry.

SPORLAN FIRST with Flow-Master element to minimize hunting in air conditioning systems...1948...Sporlan exclusive today.

SPORLAN FIRST with welded thermostatic element with stainless steel diaphragm...1934...Prime contribution to Peak Performance of Sporlan thermostatic expansion valves throughout the years.

Easy accessibility of parts has always been a feature of all Sporlan Valves. It means easy take-a-part for inspection and cleaning.

and Now...

SPORLAN LEADS THE WAY AGAIN WITH THE NEW SPORLAN TYPE-W The First 100 Ton Direct Acting Thermostatic Expansion Valve for Freon-12 Incorporating ALL the Sporlan Proven Features

BE PROGRESSIVE WITH THE LEADER...

For Confidence and

PEAK PERFORMANCE *buy* SPORLAN

SPORLAN VALVE COMPANY

7525 SUSSEX AVE. ST. LOUIS 17, MO.
Export Dept. 89 Broad Street, New York 4, N. Y.

See Your SPORLAN WHOLESALER Today!

Circle No. 16 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

It's the LAW!

by Albert Woodruff Gray

Legal problems are an inherent part of operating any business enterprise. If you are beset by them, you'd better talk to your lawyer. This column, which will appear periodically in the issues of COMMERCIAL REFRIGERATION AND AIR CONDITIONING, in no way aspires to serve as legal counsel for our readers. It is prepared, however, by a man well versed in legal practices and opinions, and by presenting digests of actual court cases involving commercial refrigeration and air conditioning dealers and contractors we hope to enable our readers to sidestep some of the legal pitfalls into which they otherwise might unwittingly stumble.

—The Editors

PROPERTY OR PRICE

THE LAW OF ARKANSAS is so similar in some particulars to the law in many of the states that a recent decision in that state of the effect of a suit for the purchase price of refrigerating equipment, on the reservation of title under a conditional sale agreement, highlights a too frequent pitfall for dealers.

This purchaser, who was opening a frozen fruit plant at Forrest City in that state, contracted for the installation of refrigeration equipment, title to remain in the seller until the price of \$7,000 was fully paid.

After the equipment had been delivered, the purchaser secured a \$36,000 loan which he secured by a chattel mortgage on all the equipment in his plant, including this refrigerator. Later he defaulted in his payments on this \$36,000 loan and the chattel mortgage was foreclosed on all the equipment.

The dealer appeared in the lawsuit and asked that the balance unpaid on his contract, be paid from the proceeds of the foreclosure sale. Later he attempted to withdraw this defense and recover possession of the equipment.

Holding that the dealer by asking in the first instance for the payment of the balance due on his contract, had waived his right to recover his property, the Arkansas court said,

"Where a vendor of chattels has reserved the title until the purchase price is paid, on breach of a condition he has two remedies, one is to

retake the chattel and thereby cancel the debt and the other is to sue for the debt and thereby waive his title to the property.

So in such a case the vendor has the right to elect which remedy he will pursue and having elected to pursue the one he is precluded from pursuing the other. Thus if a seller sues for the unpaid purchase price he has waived his title and cannot thereafter sue to recover possession of his property."

While this rule of law is not universally adopted by the courts of all the states, it is vital and its disregard fatal to the interests of dealers in the states in which it is the law.

Roy v. Notestine, 226 S. W. 2d 66, Ark.

WAIVER OF WARRANTY

A DEALER IN GEORGIA sold refrigeration equipment under a conditional sale agreement which provided, "Seller makes no warranty of the property and the purchaser accepts delivery under the warranty, if any, of the manufacturer only."

In a lawsuit by the dealer to recover the unpaid balance due on this account the customer set up the defense that the equipment was not suitable for the purpose it was intended. Refusing to sustain this defense and deciding in favor of the dealer, the court said,

"Where the contract sued on expressly stipulates that the seller makes no warranty, the purchaser who has signed the contract will be deemed to have waived the benefits of the statutory law. Such being the case, this provision clearly excluded as against the sellers the defense of failure of consideration or that the property was not reasonably suitable for the purpose intended."

Seigler v. Barrow, 63 S. E. 2d 708, Ga.

FRAUDULENT CONTRACTS

A LAWSUIT DECIDED by the Federal Court in Iowa a few months ago involved a conditional sale agreement by which air conditioning equipment had been sold an onion grower. A clause in this agreement was, "The purchaser admits notice of the intended assignment of this contract and hereby waives all rights now or hereafter existing in the purchaser's favor against the seller to make any defense, counterclaim or offset to any demand or action brought by the assignee."

The equipment failed to function properly and the buyer lost his entire onion crop valued at \$15,000 through

Continued on page 94

"Prove the Need
and the Sale
Takes Care of
Itself!"

FOR ACCURATE INFORMATION ON
RELATIVE HUMIDITY and
TEMPERATURE... RELY ON

**Bendix-
Friez**

When your customers see the facts and figures, your selling job virtually disappears. With precision-made, dependable Bendix-Friez instruments you can demonstrate with on-the-spot readings or recordings exactly how much and where your customers need temperature and humidity control for maximum comfort in the home, maximum efficiency in industrial operations. Bendix-Friez instruments are built to U. S. Weather Bureau standards by the world's oldest and largest manufacturer of fine meteorological equipment. Write for complete information.

BENDIX-FRIEZ

MODEL 160

Portable Humidity and
Temperature Recorder

3" x 5" charts, 10 or 30
hour records. Modern design... handy for small
space and difficult locations... built to meet
unusual conditions.



BENDIX-FRIEZ

Precision Humidity and Temperature Indicator

Half-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 6" wide, 2 1/2" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of

1340 Taylor Avenue
Baltimore 4, Maryland



Export Sales: Bendix International Division
72 Fifth Avenue, New York 11, N.Y.

Circle No. 17 on Reader Service Card

Having troubles, "Doc"?



Rx Replace with
Servel Supermetic



Authorized Servel Wholesalers everywhere are ready to offer you quick over-the-counter assistance on every installation requirement.



Here's a tried and proven remedy that provides a quick cure for hot weather refrigeration troubles:

RECOMMEND SERVEL—Please your customers — Pocket a good profit that's yours to keep on every installation.

Why spend valuable time repairing a worn-out compressor when there's an opportunity **RIGHT NOW** to sell a new condensing unit? Servel Supermetic is a precision-built Hermetic, made to stay on the job and designed to eliminate costly call-backs. Sell a **SUPERMETIC** next time you have a replacement installation.

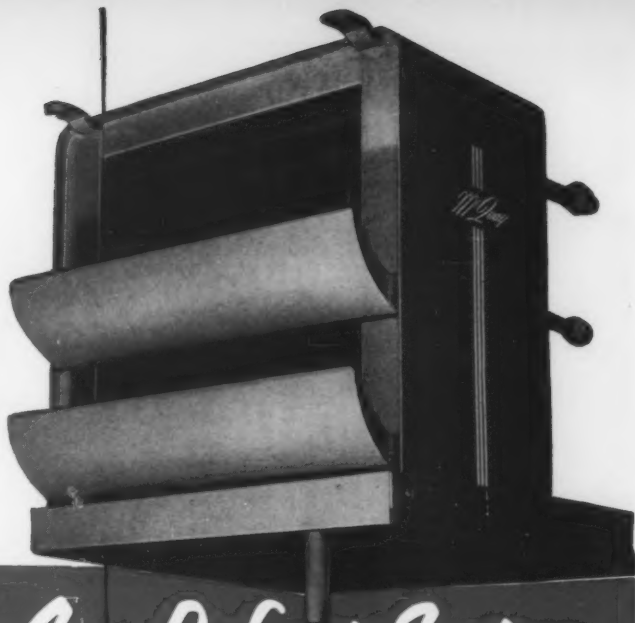
USE SERVEL SUPERMETICS— $\frac{1}{4}$ to 3 H.P. for air-cooled, water-cooled, medium or low-temperature applications. Simple to install, easy to check. Electrical accessories and interconnections completely assembled. Low-cost Servel factory-backed warranty protects your profits.

Servel SUPERMETIC

Models for every commercial refrigeration and air-conditioning use . . . $\frac{1}{5}$ to 5 HP.

Circle No. 18 on Reader Service Card for more information

SIMPLY BETTER!



McQuay Hot Gas Defrost System

The McQuay Hot Gas Defrost System is the last word in system simplicity—no special heat exchangers, storage reservoirs, reboilers, water lines, heavy power circuits, etc.

The McQuay "Reverse Cycle" method uses the standard components of a conventional refrigeration system and merely adds a control system to provide the defrost cycle.

In effect, it's a "heat pump" system utilizing the air cooled condenser to furnish the heat required for defrosting. Thus an unlimited amount of hot gas is available regardless of length of defrost cycle.

Uniform fixture temperatures are maintained because of the comparatively frost free evaporator operation. For low temperature applications from -20 to $+32^{\circ}\text{F}$. Representatives in All Principal Cities or Write for Condensed Bulletin 50. McQuay Inc. 1643 Broadway St. N.E., Minneapolis 13, Minnesota.

SYSTEM SIMPLICITY PLUS THESE MANY OTHER SPECIAL FEATURES!

- **Completely Automatic**—The timer automatically switches the system over on the defrost cycle.
- **Fast Operation**—The "reverse cycle" principle provides an abundant supply of hot gas for quick defrost.
- **Maximum Efficiency**—Since the evaporator coil need never be heavily frosted, the entire refrigeration system operates at peak efficiency.
- **Thorough Defrost**—All parts are thoroughly defrosted on each cycle.
- **Dependable Performance**—Being self-contained and not dependent upon auxiliary components and services, uninterrupted operation is assured.
- **Compact Evaporator**—It has the famous Ripple Fin—Ripple Tube coil. Seamless copper tubes are hydraulically expanded into plate type aluminum fins. Drain pan is heated by a serpentine coil in the hot gas defrost circuit.
- **Easy to Install**—The hookup is a standard refrigeration system with only minor modifications.

McQuay INC.



REFRIGERATION
AIR CONDITIONING
HEATING

What the serviceman should know about "VIRGINIA" REFRIGERATION products

EXTRA DRY ESOTOO (bp $+14^{\circ}\text{F.}$)

The refrigeration grade SO_2 that service and maintenance engineers have endorsed for more than 20 years. Comes in all popular cylinder sizes.

V-METH-L (bp -10.7°F.)

"Virginia" Methyl Chloride is made specifically for refrigeration use. Its low moisture content, low acidity and narrow boiling range meet the most exacting requirements.

"VIRGINIA" DISTRIBUTES...

"FREON" REFRIGERANTS

(a product of "Kinetic" Chemicals)

"FREON-113" (bp 117.6°F.) "FREON-114" (bp 38.0°F.) "FREON-11" (bp 74.7°F.)

"FREON-12" (bp -21.6°F.) "FREON-22" (bp -41.4°F.)

SUNISO REFRIGERATION OILS
PERMAGUM SEALING COMPOUND
PRESSTITE INSULATION TAPE

TO CHARGE A SYSTEM, USE REFRIGERANTS THAT ARE
CONSISTENTLY PURE, CONSISTENTLY SURE

HOW TO SEAL CASES, INSPECTION PLATES, PIPE OPENINGS



When you seal out moist air, you prevent condensation, corrosion and insulation troubles. The outstanding seal, the one

preferred by service and maintenance engineers, is Permagem. Brown Permagem comes in $2\frac{1}{2}$ -lb. and 45-lb. slugs. Adheres to any dry surface. Never hardens; stays plastic from 0° to 350°F. ; absolutely odorless. Gray white Permagem comes in rolls containing 80 ft. of $\frac{3}{16}$ " cords. Seals around wiring; won't attack rubber. Never hardens; odorless; can be painted immediately.

VIRGINIA
Refrigerants

ASK YOUR WHOLESALER
OR WRITE
VIRGINIA SMELTING
COMPANY

WEST NORFOLK, VIRGINIA

PHILADELPHIA • NEW YORK • BOSTON
CHICAGO • DETROIT • ATLANTA

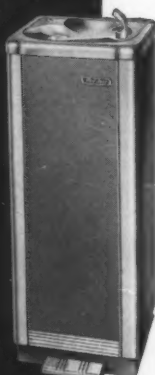
Circle No. 20 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

America's most popular drink



SELL profitable
fedders water coolers
THE YEAR ROUND



Come Fall and come Winter, the heat goes on in offices, plants, stores, theaters, hospitals, institutions and every other place where people live, work and play.

Perfectly cooled, refreshing drinking water is a year-round necessity and a year-round opportunity for sales and profits.

No high pressure... no big inventories... no tie-in deals... no time payment headaches — it is good year-round business to sell Fedders Water Coolers.

Now is the time to write for the Fedders Water Cooler year-round profit setup.

Fedders-built water coolers have been proved and approved in every climate in every part of the world for 20 years. They are nationally known, nationally advertised, nationally accepted and nationally guaranteed by Fedders 5 Year Protection Plan. You can win... you can't lose. Write department CR-13,

Mail this Coupon... today!

FEDDERS-QUIGAN CORPORATION

57 Tonawanda Street, Buffalo 7, New York

Send me the Fedders Water Cooler year-round profit setup on the complete line of bottle and bubbler models.

Name.....
 Concern.....
 Street.....
 City..... State.....



Dealers! Servicemen!

Make a fast, neat profit with genuine

FRIGIDAIRE *Quickube Ice Trays*

**Sizes to fit most any refrigerator—
regardless of make, model or age**

Every refrigerator owner is a prospect for Quickube Trays—one or a complete set. They'll sell fast at the new bargain prices, giving you a neat profit. And they're ideal to "dress up" trade-ins for quick re-sale. Your customers know about Quickube Trays—the original, most widely advertised, best automatic ice-cube tray on the market. Lay in a good stock of all types and sizes now. Remember, they're

warranted for satisfaction and quality by Frigidaire. Contact your nearby Frigidaire Parts Distributor at once, or write Frigidaire Division of General Motors, Dayton 1, Ohio. In Canada, Toronto 13, Ontario.

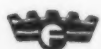
Quickube Trays, like all other genuine Frigidaire parts, are warranted to give lasting, satisfying service.

Always specify, always use genuine Frigidaire-made parts.

Only trays with "Double-Easy" Action

- Fingertip tray release
- Cubes release trigger-quick—two or a trayful
- Sturdy aluminum trays and grids
- Colorful ice blue and gold models

***Ask about New
Low Prices!***



Quickube Trays are made only by FRIGIDAIRE!

Circle No. 22 on Reader Service Card for more information

Life Saver FOR Lost Sales

or how the right Time Payment Plan
helps close more refrigeration sales



Help! Many of your prospects can't buy unless they buy on time . . . are lost sales for you unless you make it easy for them to install your equipment.



Pull 'em in by offering them the Commercial Credit Plan. Already popular among refrigeration and air conditioning buyers and sellers, it gives you a complete credit and collection service.



Saved! Yes, you'll land many more prospects by offering them immediate possession, reasonable rates and 2 to 3 yrs. to pay. All strong selling points.



Works 2-ways! Your customers benefit . . . you improve your cash position by converting your credit sales into cash. You free your own cash for other important uses.

WRITE, WIRE OR PHONE your nearest **COMMERCIAL CREDIT** office for complete information and facts on how many other Distributors and Dealers are successfully using our **PLAN**. Phone the **COMMERCIAL CREDIT** office in your city or write or wire **COMMERCIAL CREDIT, 14 Light St., Baltimore 2, Maryland.**

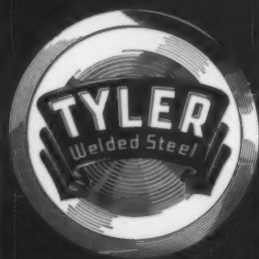
COMMERCIAL CREDIT CORPORATION

A subsidiary of Commercial Credit Company, Baltimore
... Capital and Surplus over \$125,000,000 ... offices
in principal cities of the United States and Canada.

Circle No. 23 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

Prospects everywhere for Tyler agents!

Complete Silver Anniversary
Line leads the field! Write for
new sales literature. TYLER
FIXTURE CORP., NILES, MICH.



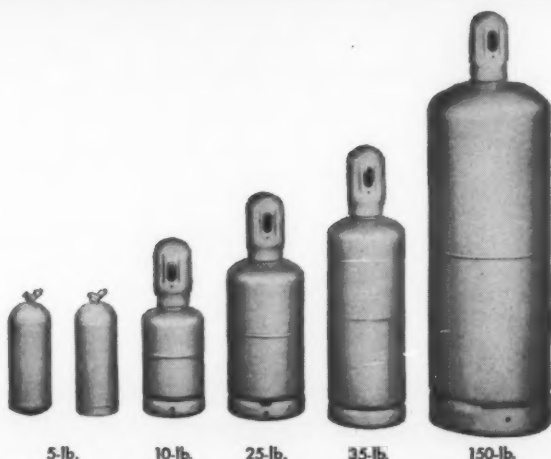
product	for use in→	Food Stores	Restaurants, Hotels Institutions, etc.	Bakeries	Drug Stores	Florists	Taverns, Bars
FROZEN FOOD DISPLAY CASES							
Open Frozen Food Display Cases		★		★			
Open Frozen Meat Display Cases		★					
Harder-Freez Display Cases (also for ice cream)		★	★		★		
STORAGE FREEZERS							
(for frozen foods, ice cream, etc.)							
Walk-in and Reach-in models		★	★	★	★		★
Sectional Storage Freezers		★	★	★	★		★
REFRIGERATED DISPLAY TABLES							
Refrigerated Display Tables (for meats, produce, dairy products, candy, bottled beverages, frozen foods, etc.)		★		★	★	★	★
OPEN MEAT DISPLAY CASES							
Open Meat Display Cases		★					
MULTIPLE-SHELF OPEN DISPLAY CASES							
Multiple-Shelf Open Display Cases (for meats, dairy products, bottled beverages, etc.)		★		★	★	★	★
OPEN PRODUCE DISPLAY CASES							
Open Produce Display Cases (for vegetables and fruits)		★					
PRODUCE DISPLAY CASES							
Service Produce Display Cases (for vegetables and fruits)		★					
SERVICE MEAT AND DAIRY DISPLAY CASES							
Floodlight Meat Display Cases		★					
Service Meat Display Cases		★					
Service Display Cases (for dairy, delicatessen and bakery items)		★	★	★			★
REACH-IN REFRIGERATORS							
Reach-In Refrigerators (for all foods)		★	★	★	★	★	★
Slide-Door Refrigerators (for dairy products, bottled beverages, etc.)		★	★	★	★	★	★
Reach-Thru Refrigerators (for all foods—used between packaging room and display cases, or between kitchen and serving area)		★	★	★	★	★	★
BEVERAGE COOLERS—BEER DISPENSERS							
Beverage Coolers			★		★		★
Beer Dispensers			★				★
WALK-IN COOLERS							
Sectional Walk-In Coolers (for produce, meats, dairy products, etc.)		★	★	★	★	★	★
AIRLINE METAL SHELVING							
Airline Metal Shelving, Tables, etc.		★	★	★	★		★

Circle No. 24 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

**DON'T
SETTLE
...
FOR LESS**

Use
Prest-O-Lite
Trade-Mark
**CYLINDERS FOR
REFRIGERANTS**



- ✓ Rugged, sturdy construction
- ✓ Uniform sidewall thickness
- ✓ Lightweight—easy to handle
- ✓ Finest workmanship
- ✓ Best appearance
- ✓ Tested far beyond all codes
- ✓ Extra years of trouble-free life
- ✓ They're economical!

You are *sure* that your refrigerant gas containers will give you many years of dependable service—and save you extra dollars—when you own PREST-O-LITE cold-drawn cylinders. They're built by the company which has been the largest manufacturer and *user* of compressed gas cylinders for almost half a century. In each step of design and fabrication the ultimate in gas containers is achieved—and this skill and experience is passed on to you with every PREST-O-LITE cylinder you get. It's no wonder that refrigerant cylinder buyers who have compared feature for feature have found out they are getting the greatest value with top-quality PREST-O-LITE cylinders.

Available in sizes ranging from 5-lb. to 150-lb. capacities—with valve, and cap on all but 5-lb. styles. A few of the popular squat-type cylinders are shown above. You'll like their good-looking appearance, with glossy metallic bronze finish. **WRITE TODAY** for full information and prices—select the PREST-O-LITE cylinder that fits *your* needs exactly.

MADE BY

Linde

"Prest-O-Lite" is a registered trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY

A DIVISION OF UNION CARBIDE AND CARBON CORPORATION

30 East 42nd Street **UCC** New York 17, N. Y.

Offices in Other Principal Cities

In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

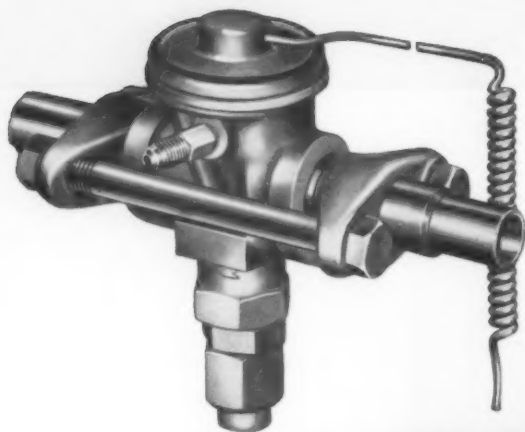
Circle No. 25 on Reader Service Card for more information
and **AIR CONDITIONING • AUGUST, 1952**

Now... You can be sure of...

Positive Control on Locker Plant Installations

with

DETROIT Low Temperature, Liquid Charged Expansion Valves

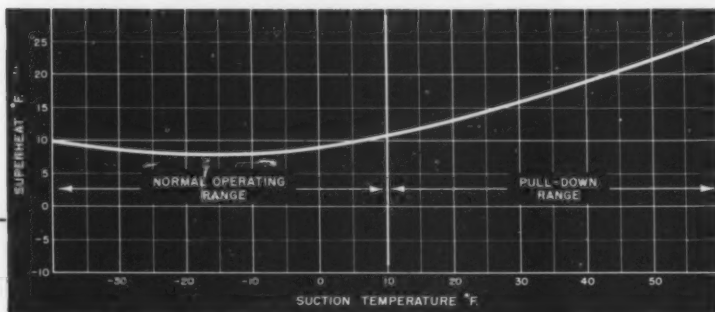


DETROIT 786 AND 787 EXPANSION VALVES

- ★ May be installed in any position
- ★ May be installed inside locker or cabinet in coldest location
- ★ Will give positive control under all conditions

Freon-12 capacities with liquid "Z" charge at -20° F. suction temperature and 100° F. condenser temperature...

No. 786	3.1 tons
No. 787	5.6 tons
No. 777	.25 and .5 tons
No. 777-E	.5 and 1.0 tons



Typical superheat curve of **DETROIT** "Z" Charged Low Temperature Expansion Valves. High superheat during pull-down starves evaporator to give motor overload protection.

DETROIT

LUBRICATOR COMPANY

5900 TRUMBULL AVE., DETROIT 8, MICHIGAN
 REPRESENTATIVES IN PRINCIPAL CITIES
 Division of **AMERICAN RADIATOR & Standard Sanitary CORPORATION**
RAILWAY & ENGINEERING SPECIALTIES, LTD.
 Canadian Representatives in Montreal, Toronto, Winnipeg
 EXPORT DEPT.—Box 218 Ridgely, New Jersey



DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • **DETROIT** EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry

AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

**"With G-E
Condensing Units,
we get trouble-free
performance and
fewer call-backs"**

Arthur Bernstein

Partner, Lee Carroll & Company
2539 North Ninth Street, Philadelphia, Pa.



MR. HARRY I. SOPPE, Plant Manager of Waldron Candies, Inc., shown above at left with Mr. Bernstein, states "Interruption of temperature and humidity control is costly to our operation. G-E Condensing Units' dependability made them our choice."

WALDRON CANDIES, INC., Philadelphia manufacturer of fine candies, is a well-satisfied customer of the Lee Carroll refrigeration and air conditioning firm. In this interesting application, Mr. Bernstein installed a General Electric water-cooled ten horsepower open unit, model VW-10. He reports "A large part of our jobs are specialties and we must have equipment that we know will deliver what the design calls for."

All over the country there are G-E Refrigeration Equipment Wholesalers and Renewal Parts Depots ready to handle all your requirements on the spot. In Philadelphia for instance, Lee Carroll & Company is served by Hajoca Corporation. Whether you need complete units or only parts, these authorized wholesalers offer fast, efficient over-the-counter service.

You can put your confidence in—

GENERAL  ELECTRIC



CONDENSING UNITS

EASY TO BUY! EASY TO SELL! EASY TO INSTALL!

FREE DATA ON G-E SEALED AND OPEN UNITS

General Electric Company, Section CR-9
Air Conditioning Division, Bloomfield, N. J.

Tell me the location of the G-E Wholesaler nearest me ☐

Please send me literature on G-E Open Units ☐

G-E Hermetics ☐ G-E Renewal Parts ☐

NAME.....

ADDRESS.....

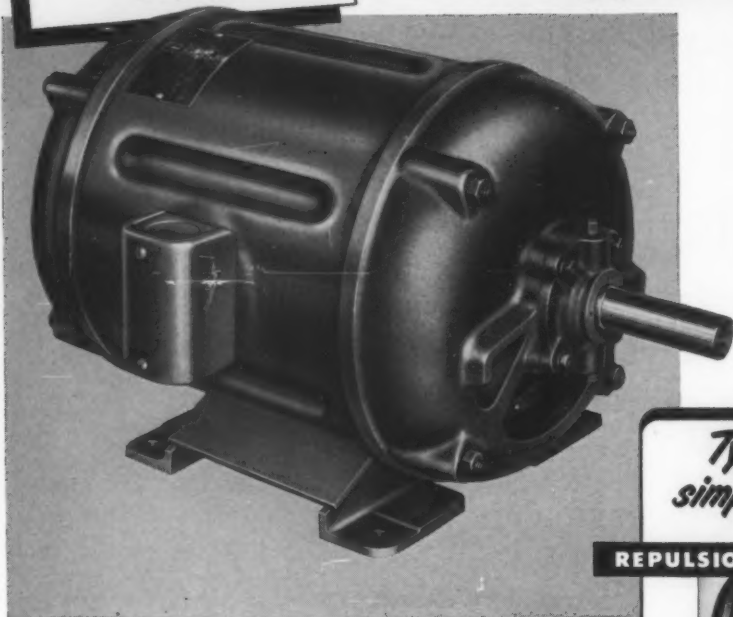
CITY.....ZONE.....STATE.....

Wagner
ELECTRIC MOTORS
... the choice of leaders
in industry

Wagner

Type RA Motors—

dependable
versatile
troublefree



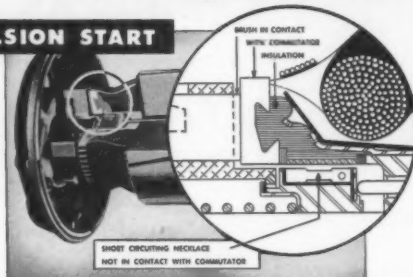
So many manufacturers of motor-driven equipment and appliances in every type of industry have chosen the Wagner Type RA repulsion-start induction motor as standard equipment for their products that it has become known as industry's general purpose motor.

Type RA is first choice for single-phase applications because of its ability to start heavy loads with low starting current. This makes it especially suitable for machines that have high inertia or heavy friction at starting. Then, too, Type RA is chosen because it gives years of reliable service . . . is economical to maintain . . . requires only minimum servicing . . . and is free from vibration and noise.

When you standardize on Wagner Motors—you get the advantages of a liberal warranty . . . of nationwide service facilities, with replacement motors and parts available from 25 Wagner-owned Service Branches and more than 650 Authorized Service Stations. You can choose from a wide variety of types and sizes (from 1/125 to 400 hp). Bulletin MU-185 gives complete information—write for your copy.

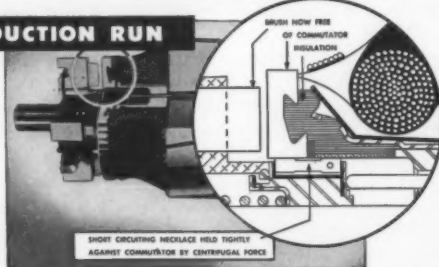
*Type RA offers the most
simplified design to provide:*

REPULSION START



Starting period—Short-circuiting neck is not in contact with commutator bars. A governor spring holds barrel in starting position. Brush assembly completes selected circuits enabling motor to start as a repulsion motor.

INDUCTION RUN



Running period—Governor weights (actuating pushrods) have forced spring barrel forward until short-circuiting neck connects commutator bars to short-circuiting ring, forming a "squirrel cage" to permit operation as an induction motor.

Wagner
Electric Corporation
EST. 1891

WAGNER ELECTRIC CORPORATION
6442 Plymouth Ave., St. Louis 14, Mo., U.S.A.

ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES
AUTOMOTIVE BRAKE SYSTEMS — AIR AND HYDRAULIC

BRANCHES IN 32 PRINCIPAL CITIES

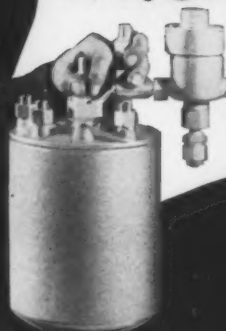
Circle No. 28 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

FROM THE SERVICEMAN'S VIEWPOINT:



"I stop worrying
when I install
TEMPRITE"



INSTANTLY COOLS water, carbonated drinks or beer. Install at roadside stands, drive-ins, taverns, restaurants, fountains, amusement parks, terminals, theatres, etc. Easily applied to root beer dispensers or counter dispensers. Widely used for industrial purposes such as process cooling, for photographic and X-ray work, etc.

QUICK and EASY HOOK-UP...NO COSTLY CALL-BACKS

WHEN YOU get together with your prospect to talk price . . . talk Temprite!

Remember, it's the final cost of a complete installation that counts! The cost of the cooler itself represents but a single factor!

Add up the figures and watch your customer pick Temprite every time!

Temprite's highly accurate pressure control valve is supplied with each cooler!

Liquid and suction line shut-off valves are supplied with each cooler, simplifying installation!

The liquid control float valve is supplied with each cooler!

ALL YOU HAVE TO DO IS HOOK-UP THE REFRIGER-

ANT LINES AND BEVERAGE LINES . . . AND YOUR TEMPRITE IS READY TO GO!

It's just as simple as that, and service call-backs are virtually eliminated. Temprite's outstanding performance record is the result of extra fine workmanship and the careful testing of each cooler before shipment.

CAPACITY IS EXCEEDINGLY HIGH because the cooling coils are directly submerged in the liquid refrigerant, assuring instantaneous heat transfer!

COMPARE TEMPRITE on an overall cost basis! Compare Temprite on performance rating! You'll stop worrying when you bid on a liquid cooling job. You'll stop worrying when you install Temprite!



Self-Contained Water Coolers



Remote Water Coolers



Carbonators



Control Valves



Instantaneous Liquid Coolers



Oil Separators



Beer Coolers

TEMPRITE PRODUCTS CORP. *"Be right with Temprite"*
P.O. Box 72-B, East Maple Rd.
Birmingham, Michigan

- ☐ Send me data on Temprite Instantaneous Coolers
☐ Ask your representative to call.

Name

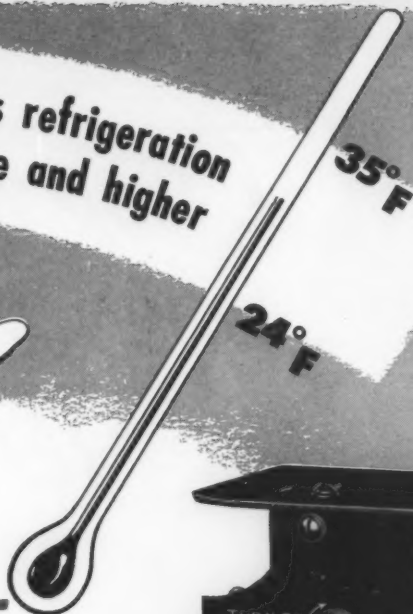
Address Zone

City State

Circle No. 29 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952



in this refrigeration
range and higher



DEFROST AUTOMATICALLY with **T-P***

*T-P...Time-Pressure defrosting...is the best method for defrosting coils in display cases, self-serve cases, reach-in boxes and other refrigeration equipment maintaining temperatures from 24° to 35° F. and higher. Here's why...

It automatically and correctly varies the defrost period as required... eliminates annoying problem of determining length of shut-down time for proper defrosting under varying load and weather conditions. T-P avoids unnecessary shut-down time by stopping compressor only long enough to defrost... and does it automatically!

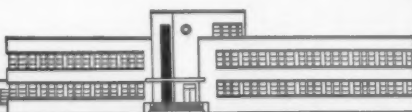
Learn more about the PENN Series 325 Time-Pressure Defroster. It's easy to sell. Ask your wholesaler or write **Penn Controls, Inc., Goshen, Indiana**. Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ontario.



Interior (above) and exterior (right) of Type 325. Timer can be set for one to six "off periods" every 24 hours. Length of "off period" varies automatically with frost condition on the coil.



PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES
Circle No. 30 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

THIS SUMMER'S HOT WEATHER has proven a long-awaited bonanza to manufacturers of packaged air conditioning equipment. RCA Victor, for instance, reports that its initial line of room air conditioners was completely sold out by the last week in June, and the company was left with a backlog of orders far beyond its expectations. Many other manufacturers told virtually the same story. Fedders-Quigan, likewise cleaned out of inventory, went to 10-hour production shifts early in July in an effort to fill some of the orders that were still pouring in from distributors. And Mitchell Mfg. Co. reported that it was "more than 30,000" units oversold on room air conditioners. Company executives pointed out that Mitchell's 1952 production schedule of 78,000 units was almost as high as the figure for the entire industry only three years ago.

THE NIGHT SHIFT WORKER, trying desperately to get his rest during the heat of the day in an uninsulated, uncooled home, with the sun shining brightly and the windows wide open, automatically becomes a prime prospect for one of the low cost window-type air conditioners, believes Herbert L. Laube, president of Remington Air Conditioning Div. Indicative of the fact that forward looking personnel managers of progressive manufacturing plants are keenly aware of this problem is the order received by Remington to supply more than 100 window units to Bell Aircraft Co. to be made available to employee of that firm's Fort Worth, Tex., plant in the belief that the exclusion of noise and heat from the sleeping rooms of night shift workers would result in greater output, fewer accidents, and higher quality work.

A FEW FIGURES ON LOCKER PLANTS recently released by the U.S. Dept. of Agriculture show that the number of such plants throughout the country increased from 1,269 in 1938 to 11,609 by mid-1951. 72% of present plants are located in towns of less than 5000 population, with 40% in towns of less than 1000. Average capacity of all plants was 493 lockers per plant. 40% of the plants are operated by grocery or meat markets, and 36% as independent enterprises. One of the most encouraging facts revealed by the survey was that during the year July 1950 to July 1951 a great majority of the plants covered showed a marked increase in earnings.

A SURVEY OF REFRIGERATED MOTOR CARRIERS is now being conducted by the National Association of Frozen Food Packers. The purpose of the survey, according to the Association's headquarters in Washington, D. C., is to assemble comprehensive information on the equipment and services provided by truck carriers. If adequate data are obtained, a listing of motor carriers, their equipment and other pertinent information will be incorporated in a directory and made available to the industry. The motor carrier survey is a project of the association's Transportation Equipment Committee. The committee earlier prepared a listing of railroad refrigerator cars acceptable for transporting frozen foods.

ANOTHER APPLICATION of refrigeration equipment in the brewing industry has to do with freezing storage for hops, a most important factor in the quality of the finished product. The German Food Technological Institute has found that fresh hops subjected to freezing storage retain desirable brewing properties. Storage above 23 F was not successful, but at lower freezing temperatures the fresh frozen hops were said to be of better quality than dried hops. Certain "essential components" were found to deteriorate rapidly during defrosting, but this disadvantage was made up by the higher yield due to easy breaking up of the hop "flowers" or cones.



Under the counter . . .



Or back of it . . .

REFRIGERATION SELLS WINE

A Colorado beverage store makes its cooling equipment pay dividends by using it as its No. 1 merchandising gimmick

MASS refrigerated displays of properly chilled wines at all times of the year have proved to be a potent business builder for Aurora Liquors, a bottled beer and wine store in Aurora, Colo.

"It's the best sales hooker we have," report partners Charles Gordon and Ralph Henderson, who have been actively merchandising wine in this Denver suburb for more than nine years.

"We have always carefully stayed away from 'price specials' and 'bargain wines,'" they explain, "which we both feel have spoiled profit possibilities in many other locations. Instead, we stock only well known, nationally accepted labels, and count on our unusual amount of refrigerated display to do the real merchandising job."

Recently, to further heighten the appeal of their refrigerated wines, the partners installed an expensive but profit-building refrigeration system involving both under-the-counter and back-of-the-counter display.

Most prominent and unique piece of equipment in this installation is a counter refrigerator with a plate glass front which runs all the way across the rear of the store. In this case a "forward stock" of popular dry and sweet wines is kept constantly chilled to proper temperature and ready to be delivered to the customer. As many as three cases of wine can be stored in this counter refrigerator at one time.

More mass refrigerated display is provided at one side of the store in the form of a glass-front reach-in with six separate doors. Here, as elsewhere, wines are not classified by brands, as is the common practice, but rather by types. In this way the customer interested in a particular type of wine doesn't have to shop all over the store, but can go to the section in which that type of wine is displayed and then select his own favorite brand.

Backing up these eye-catching displays in the front of the store is a

10 x 8-foot walk-in cooler in the back room which is used for the bulk storage of wines—in cases, half-gallons, and gallons—also properly chilled. In this way, the owners are able to capitalize on the fact that they always have on hand large quantities of wines held at proper temperatures which are instantly available for all types of parties or social gatherings.

Not only do the partners locate their refrigerated displays of wine so prominently that customers can't miss seeing them as they walk in the store, but they even go further than this. They make doubly sure that the maximum merchandising impact of this feature is achieved by personally mentioning it to every new customer.

With this talking point as an opening wedge, one of the partners then goes into an extensive discussion of different wine varieties, followed up with a general promotional pitch aimed at making the new visitor to the store a permanent—and frequently repeating—customer.

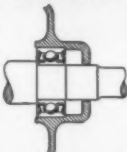
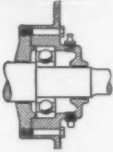
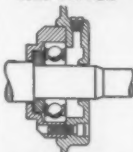
"All motors are NOT alike!"

Check these



15 Reasons Why the RELIANCE Bearing Design is the **BEST** one!

ONLY
ONE MOTOR
HAS ALL THESE
DESIGN
FEATURES:

	DESIGN A	DESIGN B	RELIANCE
			
	Prelubricated cartridge—bearing mounted in bracket	Open bearing mounted in bracket	Double-shielded, prelubricated bearing mounted in bearing cap
Bearing sealed from dirt and other foreign material	YES	NO	YES
Enclosed bearing housing	NO	YES	YES
Bearing can be re-lubricated without being disassembled	NO	YES	YES
Motor can be re-greased without removing drain plug	**	NO	YES
Automatic grease relief to suit any lubrication system	NO	NO	YES
Protection against grease entering windings	YES	*YES	YES
Balls free of direct pressure during lubrication	YES	NO	YES
Bearing can be removed without danger of distortion	NO	NO	YES
Reservoir to protect against under-greasing	NO	YES	YES
Standard commercial ball bearings	YES	YES	YES
Larger grease reserve than provided with any standard bearing	NO	YES	YES
Grease supply free of churning action	NO	NO	YES
Measuring unnecessary to prevent overgreasing	NO	*YES	YES
Unnecessary to grease equally at each side of ball race	NO	YES	YES
Lubricant is retained in ball race	YES	NO	YES

** Means is not provided for relubrication of assembled motor.
*YES, if drain plug is removed.

The Reliance Pre-lubricated Bearing Design has all of the features vital to maximum motor life. Check these points in the chart at left. The performance of Reliance PRECISION-BUILT Motors in all industries and under all operating conditions has proved their value in long-wearing, trouble-free bearing design.

In most applications, Reliance PRECISION-BUILT Motors operate satisfactorily for years without relubrication. Where it is a practice to grease regularly or where operating conditions make it desirable... it is impossible to overgrease a Reliance Motor. Write for new Bulletin B-2201 for the "inside story" of the Reliance Pre-lubricated Bearing Design.



Reliance PRECISION-BUILT A-c. Motors
from 1/4 to 300 Hp.



Sales Representatives in Principal Cities

RELIANCE ELECTRIC AND ENGINEERING CO.

"All Motors are NOT Alike"

1113 Ivanhoe Road, Cleveland 10, Ohio

Circle No. 31 on Reader Service Card for more information

and AIR CONDITIONING • AUGUST, 1952

Pointing to Profits!



VENTILATING FANS FOR COMMERCIAL KITCHENS, like the one pointed out by the hotel chef above, can be the "foot in the door" which will enable the cooling contractor to sell a wide range of specialized equipment to all types of food service establishments

AN ADDED opportunity for bonus business and plus profits that often is overlooked by air conditioning and refrigeration contractors lies in the selling of ventilating fans to commercial kitchens.

Not only can the installation of such equipment net the contractor a tidy few bucks in itself, but it also can pave the way to future sales of many of the varied types of cooling equipment used by modern food service establishments.

To properly engineer a kitchen ventilating job it is necessary for the

contractor to survey the entire establishment to determine the amount and type of equipment utilized and whether or not the establishment is or will be air conditioned. In so doing he forces the owner to lay himself wide open for further sales pitches on any other equipment which may need replacing or augmenting.

There are many reasons why commercial kitchen fans are a lucrative market for the aggressive contractor. There are upwards of 160,528 restaurants throughout the country, all of which are prospects for this type of

equipment. In addition, there are great numbers of hotels, hospitals, schools, institutions, and industrial plants which have their own food service and food preparation facilities.

There isn't a commercial kitchen anywhere that doesn't need one or more exhaust fans. Here are some of the reasons why:

1. The most obvious reason is the need for dissipating the intense heat which develops in the kitchen as a result of cooking operations.

2. Unless an exhaust fan is operating, there is a good chance that odors

from the kitchen will drift out into other rooms.

3. Greasy condensate must be dissipated to prevent it from attaching itself to walls and equipment in the kitchen.

The selling point to talk up concerning that first "reason why" is twofold. In the first place, it can be convincingly demonstrated that as the temperature comes down, employee efficiency goes up. The hotter the kitchen, the slower the cooks and dishwashers work. The slower they work, the longer the customers wait.

When this waiting by customers becomes excessive, one of two things happens: either fewer customers come around, or the management hires more help. In the case of the former, little can be done except watch the profits dribble out the front door. In the latter case, the diminishing profits dribble out the back door in the form of increased wages and operating costs. Either way, the contractor has a strong selling point which can be

readily translated into dollars-and-cents language for the benefit of the restaurant owner.

Another potent selling point these days is that kitchen exhaust fans will reduce the turnover of help by making the kitchen a more pleasant place to work. Replacing help always costs the management more than it likes to admit. And besides, competent kitchen help is mighty hard to find these days.

The problem of odors escaping from the kitchen into the service part of the restaurant is another one which can cause any eating establishment to lose customers—and profits.

Kitchen odors can be very annoying to customers, for while each individual item being cooked may smell appetizing, the combination of odors from ham, spaghetti, corned beef, beets, fish, and other items may be anything but pleasant. And unpleasant odors will drive away a restaurant's customers more quickly than almost anything else.

The problem of grease condensate

points up one of the strongest selling points for kitchen ventilating fans, for without adequate provisions for exhausting air from the kitchen this condensate will cling to walls and equipment and form a serious fire hazard. In fact, in many communities, the cooling contractor can get an assist from the local fire department in driving this point home.

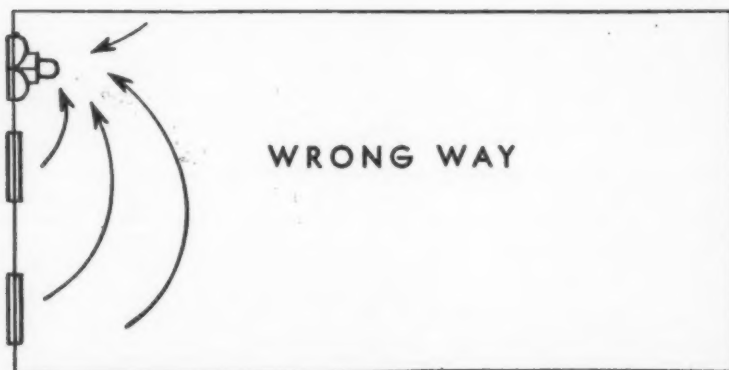
Not only is the collection of this greasy condensate dangerous, but it also is costly, for it results in drastic increases in cleaning and redecorating expenses in both kitchen and dining areas.

If, as has been stated by the Propeller Fan Manufacturers' Association, the average home kitchen in one year produces 400 pounds of this greasy condensate, it is easy to see how much more a commercial kitchen will produce, and these figures should help to impress upon the owner the magnitude of the problem.

Considering all these factors, it

Continued on page 75

There's a Trick to Installing Fans, Too

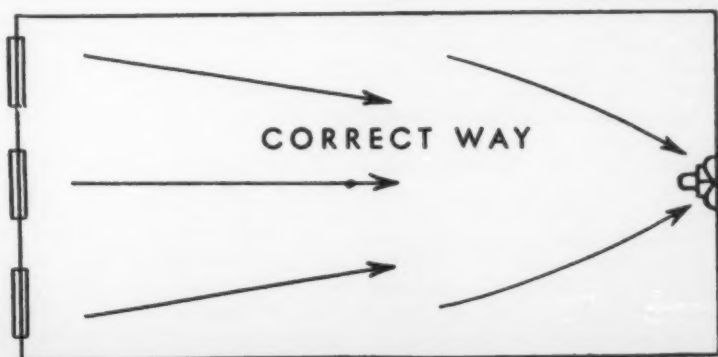


◀ DON'T

Never position a fan in the manner illustrated in this sketch. Note how the air "short circuits" and leaves an unventilated space in one end of room.

DO ▶

Correct way of positioning a ventilating fan is shown here. By placing the fan directly opposite points of intake, air is circulated throughout the entire room.



34

80 Business Opportunities

AUTO PARTS
NEW AND USED
Junk and Wrecking Cars, Scrap Iron
12 acres land; garage general repair
body, fender work, wrecking yard, scrap
yard, have all necessary equipment
1900s, 2 trucks, \$12,000 stock, price
\$21,000; located in northwestern Ohio.
R. M. KORYTA CO.
819 N. City Bank Bldg. CH 1-3618
AUTO, CAFE, GROCERY, MFG.
BUY OR SELL
Selling Your Business Is Our Business
WE FINANCE ANY BUSINESS
THE APPLE CO.
1836 EUCLID EST. 1905 MA 1-3741
BEVERAGE C-2 "DE LUXE"
West Park area Lorain Ave.; finest
there is; modern fixtures, large stock
gross \$60,000 a year; 1949 truck; rea-
son for selling, death in family.
CASSIDY REALTY
OR 1-8732
BARBERSHOP
Fully equipped; good going business for
27 years; owner retiring; responsible
for immediate sale. 1532 W. 15th St.
CH 1-3741

80 Business Opportunities

FOR SALE...
**Refrigeration contracting
business at sacrifice.
Partners disagree.**
**ABC Business Brokers,
Any City, U. S. A.**

CAFE, D3
\$1,200 a week business; St. C. 1-1777
near downtown; all bar
equipment; 1949 truck; rea-
son for selling, death in family.

80 Business Opportunities

DELICATESSEN, C-2
5 ROOMS, UP
East corner store; all electric fixtures,
walk-in cooler, price \$3,000, about
\$1,500 down; \$1,000 in stock need live
wire; good for couple; see this; can
improve.

DELICATESSEN, EAST
8 rooms, brick building, electric fix-
tures; stock about \$1,000; main street;
good for butcher or someone who knows
cold meats; price \$2,500, \$1,250 down;
see this home and business.

RESTAURANT
LAKE AVE.
Turner; beautiful fixtures; \$60 a day; 6
days a week; good equipment; terms;
good for couple or cook.

TOWER CO.
831 Hippodrome Bldg. MA 1-3174
Eve. and Sundays call CL 1-6300

D-5 Living Quarters
Southwest; growing \$1,000 per week;
cases of liquor, 8 to 11 halves of
beer; rent \$170 per month, including
rooms; \$14,000 down, owner will carry
balance. Shown by appointment only.
"Make No Mistake—Investigate!"

A T V M E L L

80 Business Opportun

Grocery—Meat We
Across from 2 schools, church; ex-
cellent; carries produce, full line
dry add meat; average gross 15%
Terms.

SHAHAN REAL
3191 W 117th
GREENHOUSE
11,000 sq. ft. under glass; free
3 roads; 5 rooms, bath; a go-
business. 4911 Chestnut Rd.
Pendence, O. LA 4-3081

GIFT-CANDY SHC
Off Lake Shore Blvd.; establish-
ment; fine location. Price \$22,500. No
Other interests. Box 21411
Dealer.

GAS STATION
MODERN 2-bay, pumps
month or better; light
side location; owner moving
CL 1-9767, call between 1
GARAGE and body shop,
equipment or part of; dra-
sell. FA 1-9636; after
WI 1-4303.

HOT
CLOSE

What About Partnerships?

by Harold J. Ashe

MANY fine partnerships exist in the refrigeration contracting business. Some are highly lucrative. Nevertheless, many refrigeration men have gone into partnership only to experience serious financial set-backs. Too often partnership advantages are not carefully weighed against the drawbacks of this type of business association.

A partnership provides more capital. It also provides additional management. However, in the small partnership this extra management may be a liability rather than an asset.

The pitfalls of partnership should be considered before papers are signed, and not be left to later discovery. While it is important that partnership agreements be carefully drawn with expert legal aid, the most explicit of agreements will not assure amicable relationships between partners.

Partners should be temperamentally suited to each other. Personal

friendship may wear thin from close daily business association.

Mutual respect is a fundamental requirement. Partners should respect each other not only as distinct personalities but as businessmen. If one prospective partner has any reservations as to the other's integrity, personal habits or business acumen, no partnership should be formed. It will fail.

Responsibility and authority of each partner needs defining. Unless specifically stated to the contrary in the agreement, each active partner has equal authority in a partnership. If one partner does not anticipate this equality it may result in friction. Partners are equal in management even though they do not put up identical capital.

In a large venture, the question of authority may be resolved by a division of duties, with neither partner having any desire to infringe on the other's responsibilities. This leaves only broad policy to be agreed upon after discussion. Where mistrust, meddling and bossiness is injected into petty daily details, only trouble

results. These nagging squabbles contribute more to partnership liquidations than any other single cause.

Ideally, partners should have divergent talents so that the partners combine more skills and abilities than either has alone. This is sometimes manifested by one partner being cautious, the other being disposed to take calculated risks. Thus, one partner keeps the other within bounds, without making their joint operations too conservative.

One partner may know how to hustle business and mix with customers and keep employees happy. Another may keep a check-rein on expenses, be critical of unproductive outlays, and be able to analyze job costs and evaluate employees.

However, too many partnerships hastily entered into are top heavy with identical talents and skills. Too often, two servicemen go into partnership where both have mechanical and technical skills and neither has any business training whatsoever. Neither knows how to sell the business; neither can keep books or even recognizes the need to do so.

Such a partnership has only one distinguishing feature: *it will go broke twice as fast as each of the partners would were they operating as sole proprietors.* Business incompetence, when multiplied, shortens business life.

In the case of small service partnerships, each partner often works as a serviceman himself. In fact, there may be no employees. The partnership is selling only the services and labor of its partners. If one partner is more productive or more skilled (or thinks he is) than the other, he may resent carrying his partner when a division of purely labor earnings is made.

Who's To Blame?

Estimating errors made by one partner will loom large in the mind of the other partner, as he sees earnings turned into losses. Adjusting complaints because of faulty workmanship can cause trouble between such partners.

In the sole proprietorship mistakes may be recognized and be corrected because there is no one else to blame. In a partnership, blame-placing too often becomes an end in itself. The other partner, of course, is always at fault.

There also is the possibility that one partner will "drag his heels," secure in the knowledge that the other partner (so long as the partnership lasts) must carry the load. Few partnerships can afford a non-producing or only partially producing partner.

Watch the Wives

Even more often, lagging may be charged when it does not exist. This is just as harmful, as it results in routine chores becoming the subject of time-consuming discussion, if not acrimonious debate.

Personal withdrawals from the business can cause dissension. This can lead to liquidation or bankruptcy. One partner may wish to draw all profit as fast as earned and, perhaps, even eat into capital. Another partner, having a long-range view, may want to plow back part of the earnings and take out only a modest amount for personal needs.

This difference may be traceable to one partner being entirely dependent on the business for his living, while the other partner has outside income. A partner with a small family



"Specialty" Cooling Means Plus Business for Dealers

HERE'S a tip for commercial refrigerator dealers who are looking for additional ways in which to sell their equipment: put your food store customers in the "fancy cheese" business.

Keith Baker, who operates the Cheese Box, a market located a couple of miles outside the city limits of Jackson, Mich., has proved that if you build a better mousetrap, and bait the trap with better cheese, you won't want for customers.

Baker, who operates a store only 18 x 30 feet, features cheeses of all types, displaying them in a 70 cu. ft. reach-in refrigerator. He got the idea on a vacation trip to Wisconsin. Since he's started specializing in cheeses, overall store volume has increased 40%—and cheese is a relatively high-profit item.

More than 100 varieties of cheeses are stocked, some of the types including Italian Cacciavolo, Gjetost, New England Sage, Noekkslost, Italian Gorgonzola and French Roquefort. All types of American cheeses, of course, are also available. Refrigerated display facilities, it has been found, have done more to push the popularity of the fancier cheeses than of the more common cheddar varieties found in most stores.

Baker originally displayed his cheese in an open-type refrigerated case, but he quickly abandoned that in favor of the slide-door reach-in he now is using. Too much "sampling," he says.

may resent the demands made on the business by another partner with a large family.

Even the wives of partners can throw monkey wrenches into the partnership. All it takes is one wife needling her husband about the business to throw it into receivership. It is a good idea for prospective active partners to know something about

the "silent"—or sometimes not so silent—feminine partners they are automatically acquiring.

Despite these pitfalls, however, partnerships can be successful. One of the largest and most thriving service businesses operating today is a partnership. These partners agree their rapid growth is traceable large-

Continued on page 76

MYSTERY MAN of the national political conventions was Douglass Benton, Carrier air conditioning specialist, shown here checking the temperature of the convention hall with his sling psychrometer. Results of these readings, taken during hourly tours of the hall, showed that temperatures were held continually below the design level of 80 F. Highest temperature recorded was 78 F, even though outside temperatures soared to a record 98.5 F. The system reached full load only once.



Despite their differences on party platforms and candidates, Republicans and Democrats alike agree on the fact that

“HOT AIR” NEEDS TO BE COOLED

How hot (in terms of temperature, not temper) does a presidential nominating convention get?

Until this year, no one really knew. But some pretty basic answers to this question had to be determined by air conditioning engineers before they could set about designing the cooling system which was installed in Chicago's International Amphitheatre prior to the Republican and Democratic nominating sessions last month.

Selection of the huge hall by both parties for their 1952 conventions was contingent on the assurance that it would be air conditioned.

The job was handled by Carrier Corp., with the assistance of A. Epstein & Sons, Chicago consulting engineers. Working with them on this

installation were two other Chicago firms, Narowetz Heating & Ventilating Co., ventilating contractor, and William A. Pope Co., heating and piping contractor.

Although specifically designed to handle the two political conventions this summer, the air conditioning system will remain a permanent part of the hall's facilities, making the building Chicago's first big air conditioned convention hall. According to William S. Bodinus, Carrier's Chicago manager, any air conditioning system that can handle the conventions can handle any other type of gathering for which the building may be used.

Air conditioning the huge 2½-million-cu. ft. hall, with a maximum of 87 feet from floor to ceiling and a ca-

capacity of approximately 12,000 people, involved the balancing of three major heat loads: the 30,000 sq. ft. of uninsulated roof directly exposed to the intense summer sun, the huge batteries of floodlights required for television and newsreel recording of the convention, and the intense activity of the delegates and the gallery during demonstrations for their favorite candidates.

To provide an answer to this complex problem, engineers designed a huge air conditioning system with two big centrifugal refrigerating machines having a 1,000-ton capacity, thousands of feet of ducts ranging up to 8 x 5 feet in size, an acre of cooling coil surface, and a special spray system for the roof. All of this in-

volved a money outlay of about \$350,000.

Biggest single source of both heat and humidity, the engineers quickly recognized, would be the crowd itself. This meant two things: that sufficient cooling capacity would have to be provided to keep the hall comfortable no matter what the occupants were doing; and that an extraordinary amount of flexibility would have to be built into the system so that the hall would not be over-cooled during the quieter moments of the conventions, with the result that the building management would be paying for full capacity operations when only partial capacity was needed.

Heat Load Is Staggering

Engineers further estimated that the load imposed each day by the lighting for the battery of 14 television cameras, plus all radio networks and both newsreel and still photographers, would be equal to the amount of heat required to keep the average home warm for two months of winter weather.

The wide roof expanse of some 30,000 square feet of uninsulated material coated with heat-absorbing black tar was the third major heat factor. The engineers estimated that on a 95-degree Chicago day, the roof's temperature would be 140 F. This would throw into the hall enough heat during a day to heat the same average home for another two months of winter weather.

Spray Solves Roof Problem

Since the inside temperature under the hottest conditions was designed to be held at no more than 80 F—15 degrees below the top outside level, so as not to provide too great a contrast when people leave the hall—this meant that the roof would be some 60 degrees hotter than the temperature desired inside.

The consulting engineer solved the hot roof problem by designing a special water spray system which plays on the roof itself. The evaporation of the water cools the roof.

The audience itself, however, will provide most of the heat problem from an air conditioning standpoint. During periods of normal activity, they will generate enough heat to

Continued on page 84

Facts and Figures on Cooling The Political Conventions

DESIGN CONDITIONS

Maximum of 80 F and 50% relative humidity in the arena, with outside temperatures as high as 95 F.

EQUIPMENT INSTALLED

Two centrifugal refrigeration machines totalling 1000 hp, having a capacity of 1000 tons, and pumping 1065 gallons of chilled water per minute to the air conditioning apparatus.

Roof spray system with a total cooling capacity of 100 tons.

8 complete central station systems, two at each corner placed at floor and ceiling level.

An acre of cooling coil surface involving 5 miles of chilled water tubes, with 150 miles of spiral aluminum fins wound around them.

16 big fans varying from 1½ to 5 feet in diameter and pulling air through the system at a rate of more than 250,000 cfm.

260 filters covering a total air inlet area of more than 700 sq.ft.

Thousands of feet of ductwork ranging in size from 5 x 8 feet down to 1 foot square.

SOURCES OF HEAT

12,000 people releasing enough heat in 24 hours during periods of extreme activity to heat the average three-bedroom house for two winters.

Batteries of TV lights and other floodlighting releasing enough heat in 24 hours to keep the same house warm for another two months.

30,000 sq.ft. of roof pulling in enough heat from the sun in 24 hours to keep the same house warm for still another two months.

Well over 5 million cu.ft. of ventilation air every hour entering the hall at 95 F. Lowering this to 80 F requires removal of enough heat in 24 hours to keep the house warm for an additional four months of winter weather.

TOTAL HEAT LOAD

316,800 Btu in 24 hours of maximum conditions, or enough to heat a three bedroom house through three entire winters.

COST

\$350,000.

about

PEOPLE

George K. Iwashita has been appointed general manager of the newly established commercial products department of the General Electric Co.'s air conditioning div. The new department will be responsible for air conditioning and refrigeration equipment used primarily in commercial and industrial establishments as distinguished from the products for the home which are handled by the already established home heating and cooling, and heat pump departments. Iwashita was formerly manager of product planning of the G-E Air Conditioning Division.



R. H. Israel, sales manager of the refrigeration department of Virginia Smelting Co., announces the appointment of **E. J. (Joe) Nast** as midwest district representative. Nast is native Chicagoan and a graduate of Northwestern university. He will headquarter at the company offices, 1545 State St., Chicago, traveling the states of Illinois, Iowa, Wisconsin, Minnesota and Nebraska. Nast was formerly a member of the Remington Rand sales staff.



Herwart Werker has been appointed director of research for American Radiator & Standard Sanitary Corp. Two other members of the firm's research staff **Kurt Krafft** and **Robert B. Duggan**, were promoted.

Werker was promoted to his new position from the post of manager of the heating division of the research department. He is succeeded by **Krafft**, formerly chief engineer of the coal and oil department. **Duggan**, a design engineer in the coal and oil department, was named as **Krafft's** successor. In his new job Werker will direct all plumbing, heating and air conditioning research carried on by American-Standard.

Robert D. Eichman, **George Sander**, and **E. A. Price** have been



R. D. Eichman



G. Sander



E. A. Price

appointed to new positions with Penn Controls, Inc. **Eichman**, new sales engineer in the company's New York district office, formerly was engaged in sales and engineering work in connection with equipment installation. **Sander**, formerly sales engineer in the New York district, has been appointed district manager. **Price**, formerly manager of the New York district office, has been appointed educational director for the company. He will operate out of the company's headquarters in Goshen, Ind., and will handle all phases of sales education as well as the training of new sales personnel.

Elias Shapiro has been appointed general sales manager of Plasti-Kote, Inc., Cleveland, Ohio, manufacturer of spray paint specialties and aerosol products. Shapiro has held sales executive positions with such firms as Casco Products of Bridgeport, Conn. and Dole-Valve Co. of Chicago. He is especially famous for his "sales coordination" plans.



Charles M. Heathman has been named southeastern field sales representative for the electric refrigeration division of Servel, Inc. Heathman's territory will include the states of Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Alabama, Florida, and sections of Delaware, Pennsylvania, Ohio, Kentucky and Tennessee. He had previously been field service representative for the division.

Appointment of **Alfred M. "Al" Turner** as Mid-Atlantic zone sales



manager in the states of Maryland, Delaware, Virginia, North Carolina, and the District of Columbia has been announced by Sherer-Gillett Co. For the past few years, Turner has operated his own retail refrigeration business. Prior to that he was employed in sales supervision at both the retail and wholesale levels. He will make his headquarters in Hyattsville, Md.

Fred Weldon, formerly regional manager for the eastern division of General Controls Co., has been appointed sales manager of the company with additional duties of responsibility for management of the new Skokie, Ill., factory near Chicago. **William L. Kell**, assistant sales manager, has been assigned as

Continued on page 72



easy
to
work



low
thermal
conductivity

STYROFOAM



water
vapor
resistance

the most nearly perfect **low temperature insulating material** yet developed

for meat packing plants, locker plants, walk-ins, dairies, ice cream plants, cold storage warehouses, fruit and beverage storage spaces for refrigerated household appliances • for refrigerated equipment • for refrigerated railroad cars, trucks, trailers, ships

Styrofoam®, a lightweight plastic made by expanding polystyrene approximately 40 times, has many desirable low temperature insulation characteristics. In fact, laboratory tests have shown that Styrofoam is the most nearly perfect low temperature insulating material yet developed. It has a high resistance to water vapor, main-

taining "just installed" insulating efficiency for years. Styrofoam has a low thermal conductivity, is odorless and non-toxic. It resists mold and rot. This strong, yet lightest of all rigid type insulation materials is available in board form which is easily cut to desired size with conventional hand or power woodworking tools.

Architects, engineers, and refrigeration and insulation contractors are finding that Styrofoam delivers effective insulation in low-temperature installations, at extremely low cost per year of service life.

(Styrofoam Pipe Covering is available from several fabricators.)

THE DOW CHEMICAL COMPANY • *Plastics Department—PL 418-1* • MIDLAND, MICHIGAN
New York • Boston • Philadelphia • Atlanta • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle • Dow Chemical of Canada, Limited, Toronto, Canada

---write today!---



The Dow Chemical Company
Plastics Department, PL 418-1, Midland, Michigan
Please send me your booklet containing information on Styrofoam, low temperature insulation material.

Name _____ Title _____

Company _____

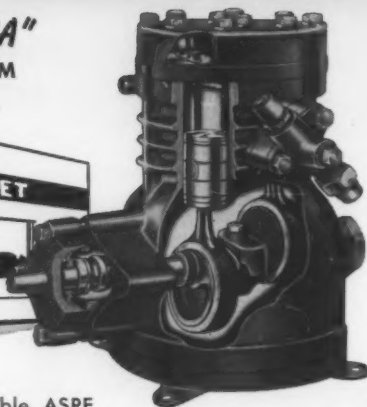
Address _____

City _____ State _____

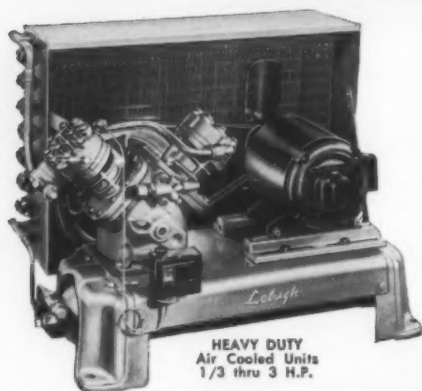


"Gives every job something EXTRA"

Says the LEHIGH TEAM



Lehigh BLU-COLD rugged, heavy duty construction and reliable ASRE Ratings give you the satisfaction of installing "America's Most Modern Condensing Units" and your customer a guarantee of trouble-free, long term service. That's the story that thousands of dealers, service men, and users tell us — to tell you! See your Lehigh jobber or write for catalogs.



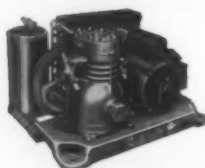
HEAVY DUTY
Air Cooled Units
1/3 thru 3 H.P.

RECENT LEHIGH DEVELOPMENTS YOU'LL WANT TO KNOW ABOUT

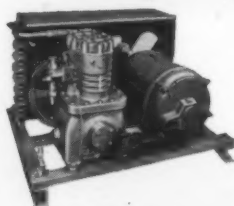
AUTOMATIC DEFROST PACKAGE SYSTEMS. Condensing unit, Evaporator Blower, all controls. Factory pre-engineered and assembled. Ready to install. The finest, most practical system on the market. Unlimited market possibilities for you!

★
NEW TRUCK SYSTEMS for city deliveries with many stops,—on-and-off-road operation,—and for long distance hauling. Many outstanding engineering features. Prospective users in every community and industry!

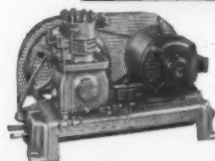
Write for new data sheets



PACKAGE
Air Cooled Units
1/4 thru 1/2 H.P.
HERMETIC SEALED UNITS
1/4 thru 1/2 H.P.



TRUCK UNITS AND SYSTEMS
1/2 thru 3 H.P.



HEAVY DUTY
Water Cooled Systems
1/2 thru 5 H.P.
Air-Water Units
1/2 thru 3 H.P.



Lehigh BLU-COLD

CONDENSING UNITS and SYSTEMS

Lehigh Manufacturing Co., Lancaster, Pa.

DIVISION OF LEHIGH FOUNDRIES, INC.

EXPORT DEPT. — 39 W. ROADWAY, NEW YORK 6, N. Y.

Manufacturers of Malleable and Grey Iron Castings • Refrigerating Equipment • Air Valves • Automatic Vending Machines

HINTS ON MOTOR MAINTENANCE

BENJAMIN HANTMAN, works engineer, motor and controls division, Westinghouse Electric Corp., Buffalo, N.Y., points out two more well-known symptoms of motor trouble, tells the causes, and suggests maintenance procedures. Problems 1 and 2 were outlined in the July issue.

PROBLEM 3

CONDITION

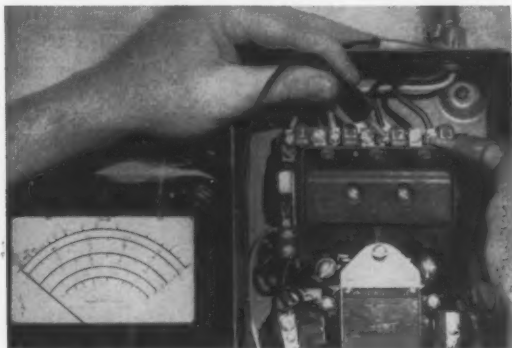
Motor turns over, but will not get up to speed.

CAUSES

Under-voltage; overloaded motor; poor commutation.

PROCEDURE

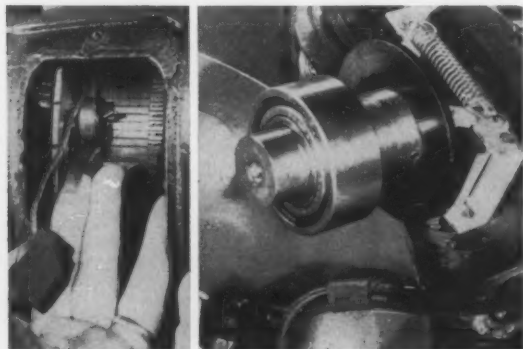
Follow steps illustrated by picture sequence.



1. Check line voltage under motor starting conditions. It should not dip to less than 10% below the motor rating.



2. If voltage is satisfactory, motor may be overloaded. See that motor size is correct.



3. If it's a repulsion or d-c motor, check for worn brushes or a dirty commutator. If it's a capacitor motor, perhaps the centrifugal switch isn't opening, leaving the starting winding on. This will result in eventual capacitor burn-out.

REMEMBER:

If the motor turns over but will not get up to speed, there is either low line voltage, the motor is overloaded, or it is defective. For a discussion of the fourth, and concluding, problem in this series, turn the page.

CONDITION

Motor gets up to speed, but runs too hot.

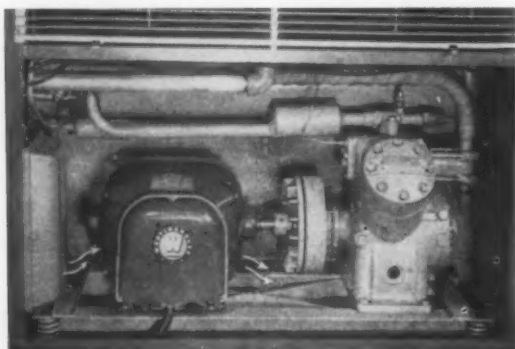
PROBLEM 4

CAUSES

Under- or over-voltage; poor ventilation; overload; faulty coupling, centrifugal switch, or starting relay.

PROCEDURE

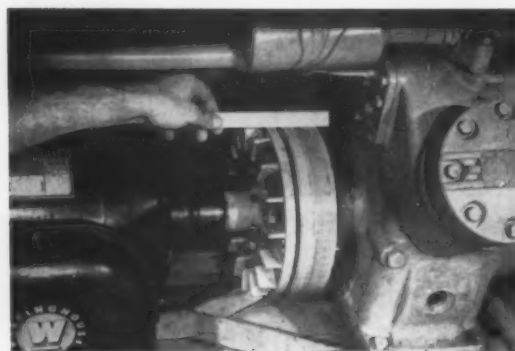
Follow steps illustrated by picture sequence.



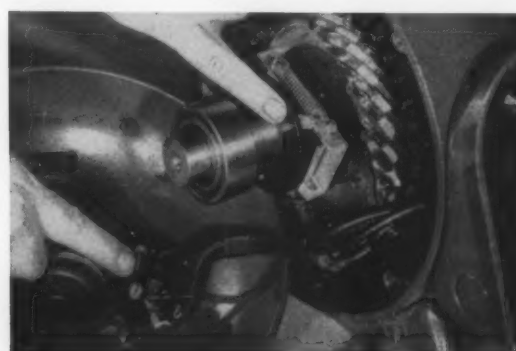
3. Check ventilation of motor enclosure to see that the openings are not clogged with dirt or lint. Look for other obstructions.



4. Check motor itself to make sure it is not fouled with dirt. A motor needs plenty of breathing space if it is to run cool.



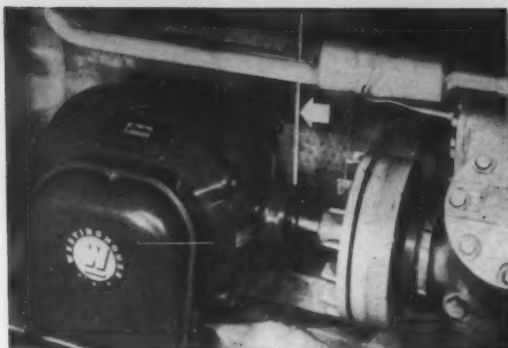
7. Check the line-up of the motor and its load. Maybe one or the other has shifted on its foundation. Misalignment causes added motor load, as well as rapid wear of couplings or belts.



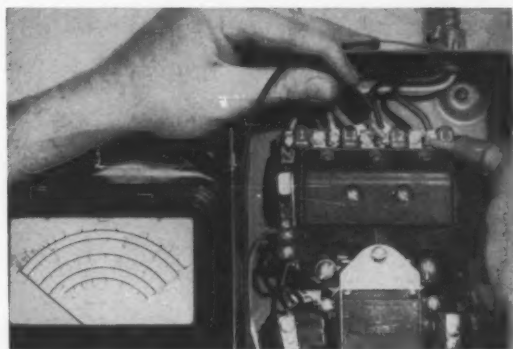
8. Check proper operation of centrifugal switch or starting relay of single-phase a-c motors, and the starting mechanism of repulsion and d-c motors. Make sure the motor isn't cycling (repeated frequent starts) due to faulty control circuit operation.



1. Don't guess—measure the motor winding temperature with a thermometer. A piece of clay or even chewing gum stuck on the bulb end before it is inserted into the stator winding will help get an accurate reading. It should not exceed 90 C (194 F). Winding temperature is affected by ambient or enclosure temperature.



2. Ambient temperature should not exceed 40 C (104 F). Most drip-proof motors are rated a 40 C temperature rise (by thermometer) over a 40 C ambient, and include a 10 C safety factor.



5. Check the line voltage to see that it is within 10% of rated value. Either over- or under-voltage will cause motor heating. If it's a three-phase motor, check all three phases.



6. Check the motor current against the name plate current to see if the motor is overloaded.

REMEMBER: If the motor runs too hot, any one of the following things may be the cause—improper voltage, inadequate ventilation, excessive overload, faulty couplings, or defective starting elements.

COMMERCIAL *Refrigerator* SALES NEWS

Dealers Report Experiences With Meter Merchandising

EIGHTY-THREE per cent of the commercial refrigeration dealers who replied to a survey sent out by International Register Co. said that they were planning to use the "meter plan" of merchandising in their sales activities during 1952, the company reports.

This compares with 53% use of the meter plan by these same firms in 1951, and 61% in 1950. A total of 520 commercial refrigeration firms replied to the International Register Co. survey.

Forty-five per cent of the dealers answering the survey believed their sales in 1952 would be higher than last year, while an even 50% were of the opinion that this year's sales would be about the same as in 1951. The other 5% of those answering believed their sales this year would be lower than last year.

Forty per cent of the dealers covered in the survey said they carried the meter plan paper themselves, with the remainder of replies being fairly well divided between local banks, finance companies, and the manufacturers.

In reply to the question as to what amount of down payment was required, 19% reported that they required no down payment; 25% asked a down payment of from 1 to 10%, and 28% required a down payment of from 11 to 20%. Approximately 20% of the firms replying said that the amount of down payment they asked depended on the individual customer.

Approximately 75% of the dealers reported that they had no repossession under the meter selling plan. Eight dealers said their repossessions were less than 1% of sales; 16 placed

their repossessions at from 1 to 2%, 11 firms 3 to 5%, and 14 at 6% or more.

Some of the selling suggestions submitted by dealers in their replies to the survey were:

"Never mention total price . . . always 'three quarters per day for 24 months,'" from a dealer in Kirksville, Mo.

"We usually sell equipment for same cost per day as their ice bill ran. Paying daily is to customer like paying daily for ice," from a Fort Madison, Iowa, firm.

"We used meters to sell used equipment," an Amarillo, Tex., dealer reported.

"Air conditioning can be sold by attaching meter to refrigerator or even lighting fixtures," said a dealer in Parkersburg, W. Va.

"Install equipment and meter as a rental until enough money for the down payment is accumulated," from a Paris, Tenn., dealer.

SEPARATE COLD MEAT CASE BUILDS PROFITS

Tailor-made ammunition for the commercial refrigeration dealer looking for a means of selling more equipment to his food market customers is the case history of one supermarket operator reported in a recent issue of *Food Topics*.

This operator found that by setting up a separate display case for "ready-to-eat" meats at the end of his regular self-service meat section he was able to woo a lot of plus business, especially from families in which both husbands and wives work and the convenience of being able to

serve meals requiring little preparation is extremely important.

Installed originally as a sort of "spot promotion," this extra case increased the store's meat business so greatly that it has been retained as a permanent feature.

SELF-SERVICE SELLS MORE FRESH MEATS

According to a survey based on 2,603 shopping carts and reported in *Food Mart News*, unplanned purchases of fresh meats were higher in self-service than in service departments. This differential was even more pronounced in luncheon and smoked meats.

This survey indicates that shoppers go into 100% self-service meat departments with an open mind. They shop around and buy more items because of the wide variety of display, accessibility of merchandise, and attractive appearance of packages.

INSIDE LOOK



CONSTRUCTION FEATURES of Jordan Refrigerator Co.'s "Jord-O-Matic" high humidity blower coil were displayed in the company's exhibit at the recent 9th All-Industry Refrigeration Conference in Philadelphia. Shown here with the cutaway model displayed is Harry Fogel, vice president in charge of sales. The Jord-O-Matic unit features a high velocity air circulator, carefully adjusted air guides, fin-type coiling and built-in temperature control.

SERVEL NAMES DAVIDSON ASSISTANT WORKS MGR.

W. Paul Jones, president of Servel, Inc. has announced the appointment of John Davidson as assistant works manager in charge of production of F-84 Thunderjet wings at Servel. During World War II Davidson was assistant superintendent of Servel's P-47 Thunderbolt wing production.



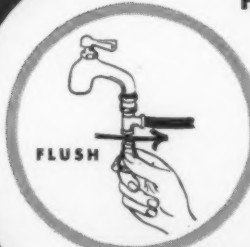
"Here It Is...At Last!" Quick, Inexpensive **NEW** Low-Temperature Defroster

Refrigeration dealers, servicemen . . . here's an opportunity to make EXTRA DOLLARS for yourself while saving dollars for your customers! Sell the RESCOR FLUSH DEFROSTER to every one of your customers who owns a low-temperature cabinet—food stores, drug stores, restaurants, soda fountains . . . and to home freezer owners, too!

With the RESCOR FLUSH DEFROSTER, any horizontal low-temperature cabinet can be completely defrosted and cleaned in 10 minutes. No scraping, chipping, or chopping—no danger of damage to plates, coils, or cabinet finish. Saves hours of defrosting time required by other methods . . . No need to shut off refrigeration while defrosting. Sells for only \$12.50, with liberal profit to you!

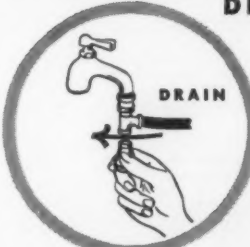
Here's how the world's simplest low temperature defrosting unit operates:

FLUSH IT OFF!



Simply connect the FLUSH DEFROSTER to any convenient hot water faucet. Spray hot or cold water on coils . . . accumulated frost melts away in seconds and the defrosting job is done. Operates on city water pressure. Adaptable to fit all types of faucets. No muss, no fuss, no bother.

DRAIN IT OUT!



It's easy with the FLUSH DEFROSTER. Just replace spray nozzle with suction drain unit, flip the valve at the faucet, and presto! All defrost water is siphoned from the cabinet into the sink through the same hose. Wipe cabinet dry and it's back in service. Hours of defrosting work done in minutes!



rescor

Write or wire today for details of the attractive
RESCOR profit opportunity!

19 WEST 44th STREET • NEW YORK, N.Y.

Circle No. 33 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952



"HOUSE OF AIR CONDITIONING" is the label which accurately describes this headquarters and showroom of St. Anthony Corp., Clearwater, Fla., distributor of air conditioning equipment. Each room in the house is set up as a showplace for a different model or a different application.

A HOUSE-FULL OF

IN THE WINDOW of the den of this master showroom is a window unit demonstrating a typical office installation.



THROUGH THE WALL installations, for use where window installation is not practical, are shown in this manner.



Want to boost your room cooler sales 400%?

Here's how one distributor did it!

LOTS of air conditioning distributors may have a hat-full or a kit-full of merchandising ideas, but there's one down in Clearwater, Fla., that literally has a house-full!

When Paul Miller, promotion-minded president of St. Anthony

tions incorporated into this matter showroom enable the salesmen to get right down to cases with customers on virtually any conceivable type of application in which they might be interested. And the non-commercial atmosphere of a private residence

prompt attention to every maintenance problem which customers may present.

"Once a customer gets used to the comfort of air conditioning," Miller reasons, "failure of the equipment constitutes a minor catastrophe. For this reason, service calls must be acted upon promptly to keep the customers happy. The new service depot enables us to cut our service time to a minimum."

Promotion of the merchandising program in which the "house of air conditioning" is the central attraction is pushed in two special ways.

Whenever a new air conditioner is installed, a sign is promptly placed in front of the home or establishment in which the installation is made. This attractive sign—with the customer's permission, of course—remains in place for just one week, no longer.

Second phase of the promotion is the emblazoning of advertising on the St. Anthony Corp.'s fleet of service trucks, inviting the public to drop in and look over the demonstration house.

Response to the program following the opening of the "house of air conditioning" was instantaneous and gratifying.

"The house was an immediate success," Miller reports enthusiastically, "and has been the focal point of our entire selling operation ever since. By providing the proper atmosphere for our dealers to bring in their customers for on-the-spot demonstrations, we have doubled the length of our air conditioning selling season and have increased sales by 400%."

SALES IDEAS

Corp., regional distributor for Mitchell Mfg. Co., was casting about for an effective way of showing the average customer and the average building contractor the advantages of room air conditioning, he hit upon the idea of using actual installations in an actual house as a demonstrating medium.

Suiting the action to the idea, he set about to establish the firm's headquarters in a typical small house, characteristic of the average central Florida frame residence. The gimmick in this outwardly typical house is that each room comprises a separate showroom for a different model of room air conditioner or a different type of application or installation.

The variety of units and installa-

proves a big aid in creating an effective aura of "low pressure" selling.

In this "house of air conditioning", prospective customers may see just how an air conditioning unit looks in a living room, dining room, bedroom, den, or office.

Miller even went so far as to convert the kitchen of the house into a darkroom, in order to convincingly demonstrate the advantages of air conditioning to the photographer.

In order to completely round out the application picture, both window and through-the-wall installations are set up.

To provide the most complete facilities possible, the garage of this demonstration home has been converted into a factory service depot, where factory trained servicemen give



Bending's much easier

WHEN YOU WORK WITH
REVERE

DRYSEAL

REFRIGERATION TUBE

Truly, it's no effort at all to bend dead-soft Dryseal. No tools are needed, just bend it by hand. And the special temper of the copper used, and its ductility, are the reasons Dryseal will not split when flared for compression fittings. Another thing you'll like about Dryseal are the special, precise, mechanical, double-crimped ends. This double crimping is the last step in the manufacture of Dryseal, and assures you of receiving a bone-dry, dirt-free tube.

The seal is made in such a way that it does not change the diameter of the tube. This makes it possible to pass the tube through any opening large enough for the tube itself. Economical tube sizes range from $\frac{1}{8}$ " to $\frac{3}{4}$ " O.D.

And, for your greater convenience, Dryseal is packed in a fifty-50 one-coil carton. This carton, which has been attractively designed for easy identification in stock, contains one 50-foot coil of Dryseal... is easier to handle, light weight, economical and is sturdily made to assure protection of the tube.

IN THE EASY-TO-HANDLE
NIFTY-FIFTY...ONE COIL CARTON



REVERE
COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.;
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—
Sales Offices in Principal Cities, Distributors Everywhere

SEE REVERE'S "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

Circle No. 34 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

NEWS OF THE INDUSTRY

REFRIGERATION NOW A BRANCH IN NPA

NPA has recently created a Refrigeration and Packaging Equipment Branch as part of the General Industrial Equipment Division, with Fred A. Weisenbach as chief of the newly formed branch, with supervision over allotment of materials for packaging as well as refrigeration and air conditioning equipment.

The Refrigeration and Air Conditioning Section will be continued under the newly created branch, with A. Gordon Wootton as its chief.

3 GET INDUSTRIAL MANAGERS' POSTS

Three new branch industrial managers have been named for the Industrial Division of Minneapolis-Honeywell Regulator Co., it was announced recently by O. B. Wilson, field sales manager.

Robert M. Woodside was appointed branch industrial manager at Cleveland, John O. Paull, in Los Angeles, and Lee Aplin in San Francisco.

SMART TO MANAGE LOF BOSTON OFFICE

Opening of a district sales office in Boston with Hilary H. Smart as district sales manager, has been announced by the Fiber Glass Division of Libbey-Owens-Ford Glass Co.

C. F. Hegg, general sales manager of the Fiber Glass Division, said the headquarters for LOF fiber glass sales in New England and upper New York state will be at 1437 Statler Building, Boston.

General offices and sales headquarters are in Toledo. Manufacturing operations are centered at Parkersburg, W. Va.

"HOT" SALESMEN COOL OFF IN HAVANA



FIFTEEN WINNERS of the Woodson & Bozeman, Inc.-Fedders room air conditioner sales contest are shown grouped near the pool at the Hotel Presidente in Havana. The group spent a 3-day holiday in the Cuban capital as guest of the Memphis and mid-south wholesalers of Fedders. Winners were: left to right (seated), Elmer Dye, West Memphis; Newell Kisner, Indianola, Miss.; Francis Weis, Brinkley, Ark.; Douglas Rice, Newbern, Tenn.; (standing) left to right, Wm. Van Hersh, Memphis; J. B. Hyde, Clarksdale, Miss.; Robert Bozeman, Don Pitts, Memphis; L. B. Fountain, Ripley, Tenn.; Cecil Gullett, Memphis; Lavert Denton, Greenwood, Miss., and Wayne Johns of Memphis.

DOLE CELEBRATING 25TH ANNIVERSARY

1952 marks 25 years of manufacturing experience back of the Dole vacuum plate evaporator which was designed, patented, produced and pioneered by Dole for all types of refrigeration applications.

About 1930 this company undertook the job of supplying holding cabinets for zero temperatures to handle frozen foods for Birds-Eye Frosted Foods and Swift and Co. They are still large users of Dole plates.

One of the first applications was the modernizing of old brine cabinets by installing Dole conversion units. Some of the early ice cream companies that installed truck plates in Chicago were Borden, Cunningham (later Borden), Paradise, Swift, Shedd and many others. The Shedd company was one of the first ice cream companies to undertake the distribution of frozen foods.

NEW STYROFOAM RESISTS FLAME

A new formulation of Styrofoam with greatly reduced burning characteristics has been developed by Dow Chemical Co.

In announcing the development, A. R. Tucker, head of the company's Styrofoam sales, stated that the newly formulated material meets American Society for Testing Materials test requirements for a self-extinguishing plastic, and it is therefore "expected to find greatly increased use, particularly in the low-temperature insulation field."

Tucker revealed that the new formulation is now in full production at the Midland plant and will be designated as Styrofoam 33. Dow will continue to supply the familiar white unmodified Styrofoam, which will now be called Styrofoam 22. For purposes of identification, the new formulation will be tinted a blue color.

ROOM UNIT MAKERS ELECT LAUBE

Herbert L. Laube, president of Remington Corp., Auburn, N. Y., was elected to head the industry trade association of room air conditioner manufacturers at a meeting held at Hot Springs, Va., recently. These manufacturers constitute the Room Air Conditioner Section of the Air Conditioning and Refrigerating Machinery Association.

Laube has long been a prominent figure in the commercial and industrial air conditioning and refrigerating machinery industry. In recent years he has been principally active in the development and marketing of room air conditioners.

H. B. Donley of General Electric Co., Louisville, Ky., was elected vice chairman of the room air conditioner trade group. W. L. McGrath of Carrier Corp., Syracuse, N. Y., was re-appointed chairman of the Room Air Conditioner Section's Engineering Committee.

LAMATT AGENCY IS NEW USAIRCO REP

United States Air Conditioning Corp. has appointed Lamatt Agency Division of Southern Heater Co., New Orleans, as its representative throughout Mississippi, the major portion of Louisiana and the western part of Tennessee.

The assigned territory will be served by three offices of the Lamatt Agency—in New Orleans, at 480 Baronne St.; in Jackson, at 2840 Arbor Hills Dr.; and in Memphis, at 1482 Madison Ave.

The complete line of heating, ventilating and air conditioning products will be handled by the new representative.

ARBUCKLE WINS NORFOLK SALES AWARD

At a recent meeting of the Sales Executive Club of Norfolk, Va., the Virginia Smelting Co. nominated W. B. Arbuckle, southwestern sales representative, as a winner of the 1951 "Sammy" award for excellence in salesmanship.

The idea of recognizing outstanding achievement in salesmanship was originated this year by the Sales Executive Club, a national organization. The star salesman's "Sammy" bears a connotation similar to the movie star's "Oscar." Each year hereafter a special ceremony will be devoted to "Sammy" awards to salesmen named by the companies they represent.

Arbuckle has been a member of the "Virginia" sales staff for 20 years. His home is Houston, Tex.



Arbuckle and "Sammy"

sales per super market rose to \$1,000,000 a year.

One out of every four super markets in the country is already completely self-service and half of the nation's super markets now have 100% self-service meat.

The industry continued its vigorous expansion program in 1951 despite many obstacles. Definite plans for 1952 call for the construction of 525 new super markets and 275 major remodelings by SMI members.

Frozen foods are carried by 100% of the supers, candy by 99%, ice cream by 97% and health and beauty aids by 90%. The number of supers carrying housewares rose from 45% last year to 68%.

NEW WHOLESALER IN HARTFORD, CONN.

Nevin W. Day, former manager of the refrigeration department at Marsden & Wasserman, Hartford, Conn., refrigeration parts wholesaler, has established the N. W. Day Supply Co. with headquarters at 93 Edwards St., Hartford.

Day is well known to commercial refrigeration and air conditioning men in the area, having started in the industry in the early '30's as a refrigeration serviceman.

TIME TROL NAMES 3 NEW OUTLETS

Time Trol Co., New York City, manufacturers of a portable air conditioner timer switch, has an-

nounced the appointment of Bruno-New York, Inc., as exclusive distributor of this equipment in the metropolitan New York area.

Other new distributors named recently include Betco, Inc., Louisville, Ky., and Main-Line Distributors, Cleveland and Toledo, Ohio, in their respective territories. Walter H. Steiner is president of Time Trol, Inc.

WHITE-RODGERS CO. OPENS N.Y. BRANCH

White-Rodgers Electric Co., has announced the opening of a new enlarged regional branch at 35-14 Crescent St., Long Island City, N. Y.

The branch will service New York City and surrounding area, stocking a large supply of controls and control systems.

Arnold E. Petersen is regional manager, assisted by Jack Weigert, Frank Crawford and Ed Hartnett. Tom Langan is service information division supervisor.

COOLERS WIN



THE COOLERS were winners of this year's fifth annual golf tournament between members of ASRE and ASHVE Pittsburgh sections. This year's match was the beginning of the best three-out-of-five series for the John S. Forbes Memorial Trophy, provided by Superior Valve & Fittings Co. in memory of its founder and first president. The ASRE team, better known as the "Coolers," won this year's tourney from the ASHVE "Heaters." Permanent possession will go to the team winning three times out of five. John M. Blair, chairman of the Pittsburgh section of ASRE and head of the Refrigeration Department of Williams & Co., is shown standing beside the trophy.

MUSSUN IS ACME REP IN CLEVELAND

R. E. Mercer, director of merchandising for Acme Industries, Inc., has announced the appointment of the Mussun Equipment Co., 915 Hanna Bldg., Cleveland, as Acme representative for northern Ohio. The new agency will handle all products of Acme's contractor and Flow-Cold sales divisions.

The firm is headed by William G. Mussun, Jr., with Spohn Heating & Ventilating Co. prior to organizing his own company as a manufacturer's representative in October 1951.

With Mussun as sales engineers are Ralph C. Frey and William P. Westbrook, the latter formerly with Avery Engineering Corp., the York branch in Cleveland, and Cleveland Electric Illuminating Co.

NEW WHITE-RODGERS BRANCH IN DETROIT

White-Rodgers Electric Co. has announced the opening of a new enlarged branch at 16590 Wyoming Ave., Detroit, where a complete supply of controls will be warehoused for servicing Detroit and the surrounding area.

The branch will also operate as an exchange agency, having replacement facilities. Plans are to build a laboratory for testing controls.

Formal opening is planned for early in September. Charles O'Brien is manager of the new branch, assisted by Don Robinson.

STYROFOAM OUTLET IN DETROIT NAMED

Donald L. Gibb, manager of the plastics sales department of Dow Chemical Co., has announced that Parham Industries, Inc. of Detroit, has been named a Michigan area distributor for Styrofoam low-temperature insulation.

Parham Industries, Inc. is headed by Charles L. Parham, Jr., a veteran of 32 years in the insulation business. In 1945 he purchased his present business from Mitchell and Smith Inc. of Detroit, where he served as director and vice president in charge of insulation sales.

HARVEY REPRESENTS PACIFIC IN N.Y.

Recent addition to the list of distributors of Pacific valves and equipment for all compressed gases is Allen B. Harvey, New York representative of Pacific International Products, Inc., San Marino, Calif. His offices are at 60 East 42nd St. Harvey is a member of American Society of Refrigerating Engineers and Refrigeration Service Engineers Society and a former member of C.G.A. and L.P.G.A.

SAYS SUPERS SELL 85% SELF-SERVICE

About 85% of super market sales are made by the self-service method, it was revealed by Curt Kornblau, research director of Super Market Institute, speaking at a luncheon session of Super Market Institute's 15th Annual Convention.

For the fourth consecutive year, the members of Super Market Institute have shown larger gains in sales than the five biggest grocery chains, according to the fourth annual survey of the super market industry. Institute members registered a 21% sales gain over 1950—the highest increase on record. Average

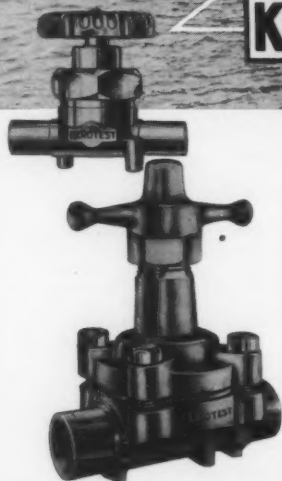
←E Where Quality Counts Most —it's KEROTEST 3→

Refrigerated in 1941



KEROTEST

Valves Still Serving!



Since 1941 the S. S. Mormacyork has been transporting fruit from the tropical regions of South America—a service in which dependable refrigeration is absolutely essential. Kerotest valves were chosen for this important installation, and Moore-McCormack Lines, Inc., report the original equipment still is in use, after 11 years of service.

Yes, where quality counts most, you can depend on KEROTEST Refrigeration Valves and Fittings to give extra value at no extra cost. To be sure of the best . . . buy KEROTEST.

*See Your
Kerotest Wholesaler
FIRST*

KEROTEST

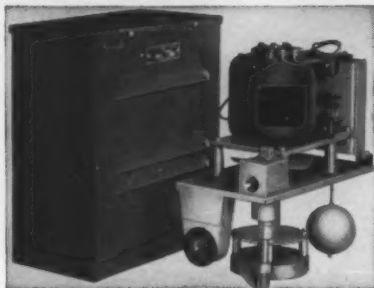
KEROTEST MANUFACTURING COMPANY
Pittsburgh 22, Pa.

Circle No. 35 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

Good to the last
Drip



Eastern hot CONDENSATE DISPOSAL UNIT



**Automatically removes hot condensate
from air conditioning units**

This completely automatic unit disposes of hot liquid condensate at temperatures up to 200-210F. It's easily installed in air conditioning, or similar systems, where normal gravity drain-off is not possible. Quiet and reliable, it requires no oiling or maintenance during its long life. Low operating cost and rust proof construction make this compact and rugged unit a worthy investment in convenience. Complete catalog material on request.

SPECIFICATIONS

TANK: Capacity — Approximately 0.8 gallons. Brass with black enamel outside.

PUMP: Bronze centrifugal pump. Delivery approximately 4½ GPM at 0 PSI and shut off of 12½ PSI.

MOTOR: 1/40 HP, 3450 RPM, single phase, 60 cycles, 115 volt, totally enclosed, ball bearing, capacitor start motor.

WEIGHT: 23 pounds.

CONTROL: A switch, operated by a float, is so set that the pump will pump out approximately 0.4 gallons of condensate at each operation. A check valve built into the outlet prevents the outlet line draining back into the tank.

WIRING: The unit is provided with a knockout hole for attachment of BX Cable for the motor. All wiring is enclosed in unit.

Eastern INDUSTRIES, INC.
296 ELM STREET, NEW HAVEN, CONNECTICUT

Circle No. 36 on Reader Service Card for more information

CONDENSER GRIDS SAVE \$750 A YEAR

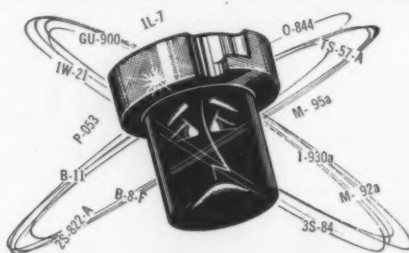


HOW A SUPER MARKET saved \$750 in water charges annually by the installation of condenser grids containing 500 feet of ¾" Anacanda copper tubing laid in the moist ground below the concrete basement floor was illustrated in this exhibit at the recent "housewarming" of American Brass Co.'s new \$1,500,000 warehouse in Chicago. Use of the condenser grid arrangement eliminated the need for using metered city water to cool the refrigerant used in the super market's refrigeration equipment.

MITCHELL APPOINTS OUTLET IN CUBA

Mitchell Mfg. Co. has announced the appointment of its first distributor in Havana, Cuba. Manager of the new distributing company is George Minier.

Sears, Roebuck & Co. reportedly will be one of the major retailers of Mitchell units in the Cuban territory, and the new distributorship will also supply other dealers in Cuba and Latin America.



*Confusing
but not
Amusing*

Can't blame the little fellow! Even the best of us are sometimes confused by the many symbols ordinarily used for thousands of ASA Standard sizes. With ACE, however, you simply state your wants in original, unscrambled specifications, i.e.—I.D.—O.D.—Length—Type. That's the way to get just what you order every time. And the way to get your new, free ACE catalog is to write for Catalog 1101-11



**ACE DRILL
BUSHING
CO., INC**

5407 Fountain Ave.
Los Angeles 29

Circle No. 37 on Reader Service Card for more information



Plenty to talk about...
it's a
TEMPRITE!



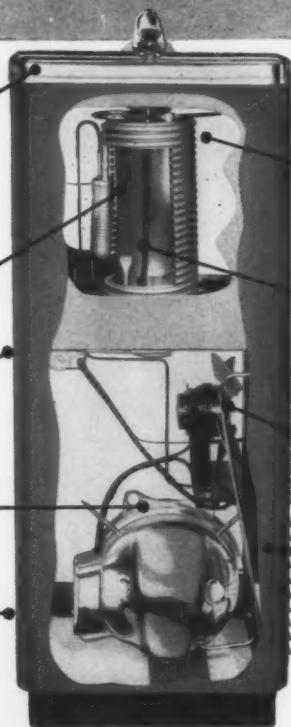
The Temprite top and bubbler design is the most attractive in the industry; sanitary, satin-smooth finish is perfectly harmonious to the surroundings of every type of business or industrial establishment.

Highly durable water cooling and storage tanks will not corrode.

All joints and fittings are silver soldered to prevent liquid or gas leaks of any kind.

Compressor is hermetically sealed and lubricated for life. Quiet operation disturbs no one.

Five-year protection plan available on all hermetic type units.



Pre-cooler assembly (not visible here) operates as heat exchanger between incoming and drained water; increases efficiency up to 50%.

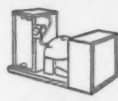
Water inlet incorporates a patented feature which instantaneously directs the warm water into the bulb well to start the compressor and increase cooling capacity.

Fan-motor assembly is lifetime-lubricated, heavy duty type.

Frame is welded into one piece, sturdy, angle-iron construction. Top and side panels easily removable.



Self-Contained Water Coolers



Remote Water Coolers



Carbonators



Control Valves



Instantaneous Liquid Coolers



Oil Separators



Beer Coolers

TEMPRITE PRODUCTS CORP.
P.O. Box 72-B, East Maple Rd.
Birmingham, Michigan

- ☐ Send me your complete line brochure
☐ I am interested in a distribution franchise

Name

Address Zone

City State

Circle No. 38 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

**NO Other Line Gives You
So Much Satisfaction,
Quality, Safety, Economy!**

Save \$800
PER YEAR

**Eliminate the "Throwaway
Habit"—Get the "RAPID
REFILLABLE" Habit!**

If you use only 25 dehydrators per month, you can save \$800 a year by Refilling instead of using the cheapest "throw-aways".

In addition, you get more safety, more satisfaction, more protection on every installation. All "RAPID" Refillable Dehydrators are UL listed.

DON'T "THROWAWAY" YOUR PROFITS!

Write for catalog

DESIGN-ENGINEERED
FOR RUGGED SERVICE

Fine PRODUCTS CO.
4837 S. Western Blvd., Chicago 9, Ill.



Loudon

DE LUXE

**Walk-in Cooler
with Plug-in Panel Unit!**



(Wood, Inside and Out)

If your food operations require a walk-in cooler, the LOUDON De Luxe Model is the one ideally suited to your purposes. Specially designed construction and insulation features assure you the most advanced type of food storage facilities. Available with or without LOUDON Plug-in Panel Refrigerating Units. Constructed of kiln-dried fir 2 1/2" thick, 4" tongue and groove. Insulation is 3 1/2" Fiberglas. Finished in natural or gray. Available in any required size. Does not require any refrigeration man—just plug it in. Write for specifications and prices.

LOUDON MFG. CO.
2524—27th Ave., So., Minneapolis, Minn.

Circle No. 40 on Reader Service Card

USEFUL

BULLETINS • BOOKLETS • CATALOGS

The publications listed below are available to readers without charge. Simply circle on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

PUTTING AIR TO WORK is the subject of a 60-page catalog (No. 600) of air handling equipment now available from Westinghouse Electric Corp. This catalog is divided into three sections: a 21-page equipment section; a 14-page application section; and a 16-page engineering data section. A "quick-finder" chart and index simplifies the problem of selecting the right piece of equipment for any particular job.

Circle No. 111 on Reader Service Card

DUAL TEMPERATURE PIPE INSULATION, a new product being marketed by Owens-Corning Fiberglas Corp., is the subject of this 4-page data sheet. Application procedure is illustrated step by step, and a complete discussion of physical properties is included. This insulation is designed especially for pipe lines operating at low temperatures or at alternate cycles of high and low temperatures.

Circle No. 112 on Reader Service Card

IF YOU'RE SURE YOU KNOW all there is to know about V-belt selection and use, you won't have any need for this 42-page catalog published by Maurey Mfg. Corp. But if you're not, chances are you'll find some very helpful information in the many pages of engineering data which it contains.

Circle No. 113 on Reader Service Card

CENTENNIAL MODEL in Sherer-Gillett Co.'s commercial refrigerator line is completely described and illustrated in this 4-color specification sheet. Special merchandising features are outlined in detail.

Circle No. 114 on Reader Service Card

PLENTY OF "PLUS" PROFITS are available to air conditioning contractors in the field of industrial ventilation (see August 1951 issue of *COMMERCIAL REFRIGERATION AND AIR CONDITIONING*), and if you want to learn more about it you'll find some helpful information in this catalog of roof ventilators produced by G. C. Breidert Co.

Circle No. 115 on Reader Service Card

USE OF THE METER PLAN in merchandising commercial refrigeration equipment is growing steadily. For all the facts and figures on how many dealers use meter selling, how much equipment they sell, how they finance their meter plan paper, what down payments they require, and how many units they repossess, read this survey compiled by International Register Co.

Circle No. 116 on Reader Service Card

(For more Useful Literature turn to page 93)

AUGUST, 1952 • COMMERCIAL REFRIGERATION

"We wanted Proof!"

...says Mr. T. E. Louis

"The Results are Amazing!"

Read How Kelvinator Spot-Special Cabinets
"... Add up to sound merchandising, rapid turnover
and increased Profits" in Frozen Foods!



Mr. T. E. Louis—Owner
Louis Stores, Inc., Berkeley 5, Calif.

Louis STORES, INC. • Operating Louis Stores and Vern's Shopping Center
OFFICE: 3201 SHATTUCK AVENUE • BERKELEY 5, CALIFORNIA • TELEPHONE BERKELEY 7-4048

May 15, 1952

Mr. J. A. Warren, Jr.
Nash-Kelvinator Sales Corp.
2325 East 12th Street
Oakland, California

Dear Mr. Warren:

Several weeks ago we decided to find out if your "spot special" frozen food merchandising cabinets would give us the sales increases you claimed.

We wanted proof!

So, we installed a Kelvinator KM-6 in our San Lorenzo store -- one of 26 in the Louis Stores chain. We changed the contents of this cabinet every Monday and ran weekly "specials". The results are amazing. Here is an actual record of the frozen specials -- and the percent of increase in sales when the following items were displayed and promoted in the KM-6:

Raviolas	Sales increased 97%
Waffles	Sales increased 89%
Chicken Pies	Sales increased 178%
Chicken ala King	Sales increased 142%
Frozen Pies	Sales increased 82%
Strawberries	Sales increased 243%
Whole Chicken	Sales increased 198%

Needless to say, we are more than pleased with the results obtained -- which have convinced us that "spot special" display of frozen foods -- and Kelvinator cabinets -- add up to sound merchandising, rapid turnover and increased profits.

Very truly yours,

T. E. Louis

TEH/

WAREHOUSE: 1918 PARK STREET • ALAMEDA, CALIFORNIA • TELEPHONE LAKEHURST 3-6620



Louis Store, San Lorenzo, Calif.
—one of 26 in the Louis Stores Chain

Henry F. Gonsalves, Mgr. of
San Lorenzo Louis Store—with Sales-making
Kelvinator KM-6 Frozen Food Merchandiser



You can increase your profits too, by selling Kelvinator Frozen Food Merchandisers. Every retail food store is a prospect! See them today—(8 models—from 6 to 20 cubic feet!) at your nearest Distributor or Zone office... or write Kelvinator, Division of Nash-Kelvinator Corporation, Detroit 32, Michigan.

Profit Today... Build for Tomorrow with

Kelvinator

The Name that Sells... The Name that Satisfies!



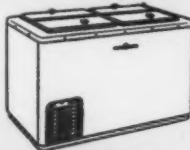
KELVINATOR
BEVERAGE COOLERS



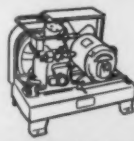
KELVINATOR
FROZEN FOOD
MERCHANDISERS



KELVINATOR
WATER COOLERS



KELVINATOR
ICE CREAM CABINETS



KELVINATOR OPEN TYPE
CONDENSING UNITS
(14 H. P. to 5 H. P.)

Circle No. 41 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

NEW

PRODUCTS

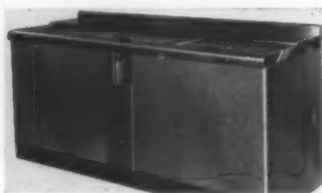
For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Bottle Cooler

Product: "LoBoy" beverage cooler.

Manufacturer: Nor-Lake, Inc., Hudson, Wis.

Features: Available in 4, 6, and 8-foot lengths, either with or without compressor. Respective capacities are 16, 24 and 30 cases of 12-ounce



bottles. Top is all stainless steel with slide-back lids. Front, sides, and back are cold rolled auto body steel with baked enamel finish. Movable wire dividers make it possible to accommodate any size of bottle. High velocity blowers combined with special fin coils give extremely fast cooling. Large glass rail at rear of top prevents any object from being pushed off.

Circle No. 131 on Reader Service Card

Walk-In Freezer

Product: Self-contained walk-in freezer.

Manufacturer: Loudon Mfg. & Sales, Inc., Minneapolis, Minn.



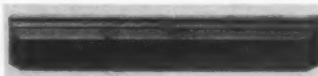
Features: Low temperature coil and unit equipped with automatic defrost. Cooler constructed of 3/4-inch kiln dried fir inside and out, with 6 inches of insulation. Comes in 3-foot sections. Has overlapped freezer door. Panel unit consisting of Servel condensing unit and McQuay automatic defrosting coil can be put in any one of three walls. Plugs into any 220-volt power line, and requires no refrigeration man to connect it. Maintains temperature from -10 F up. Available in seven sizes.

Circle No. 132 on Reader Service Card

Perimeter Diffuser

Product: Air diffuser for perimeter heating and cooling applications.

Manufacturer: Titus, Inc., Waterloo, Iowa.



Features: Installed with back of grille flush with wall, so that ductwork leading to grille comes through floor and never through the wall itself, thus cutting installation time and costs considerably. Ducts are shorter and less turns are required, as new diffuser simply slips over the boot. Baffles on inside of diffuser throw air streams in a 180-degree arc, completely blanketing the wall. Made with a finish coat that blends well with any furnishing.

Circle No. 133 on Reader Service Card

Service Thermometer

Product: Redesigned "Service-man" thermometer.

Manufacturer: Jas. P. Marsh Corp., Skokie, Ill.

Features: Internal mechanism has been completely re-engineered. Bour-

don tube connections are fitted into female end pieces and silver brazed to form permanent leak-proof joints. Internal stop provides complete protection against excessive tempera-



tures. Geared precision movement of wear-resisting brass for long trouble-free service. Recalibrator shifted from face of dial to back of reel plate, where it is easily accessible, eliminating need for removing retaining ring and glass to reach it. Can be used for temperature tests from -40 up to 65° F. Polystyrene crystal protects dial face.

Circle No. 134 on Reader Service Card

Cylinder Cap

Product: "Handy-Tote" interchangeable cap for refrigerant cylinders.

Manufacturer: Fine Products Co., Chicago, Ill.

Features: Provided with handle to facilitate carrying of bulky stand-



ard ICC refrigerant cylinders. Equipped with standard cylinder thread for quick transfer from one cylinder to another. Makes it possible for busy serviceman, even with his arms full of tools and equipment, to

pick up refrigerant cylinder with just a couple of fingers and carry it without danger of straining his fingertips or dropping cylinder on his toes. Saves time and extra trips to the service truck.

Circle No. 135 on Reader Service Card

Tri-Level Dairy Case

Product: Dairy display cabinet with three selling levels.

Manufacturer: Bailey & Perkins Co., Utica, Mich.

Features: Bottom shelf will hold 108 quarts of milk. Capacity of refrigerated center shelf is 64 pints, or a corresponding amount of butter or cheese. Non-refrigerated top display shelf is for related items. Automatic defrosting. Entire cabinet cooled to



correct temperature by blower and large capacity cooling coil. Self-contained condensing unit slides out for easy service. Cabinet finished in white baked enamel with stainless steel ledge and polished aluminum trim. Thermopane glass front for better display. Welded steel construction with rust-proof aluminum liner. Louvered front. Banroc and Styrofoam insulation. Fluorescent lighting. Glass end panels. Eye-level price panel. Overall dimensions are 50 x 29 x 56 inches.

Circle No. 136 on Reader Service Card

Insulation Adhesive

Product: CD Cement 200, a special cement developed for the bonding of Styrofoam, Strux, or cellular cellulose acetate and other foamed materials to themselves and to many other substances.

Manufacturer: Chemical Development Corp., Danvers, Mass.

Features: Has a high solids and is extremely tough. Non-staining and crystal clear, so that even an excessive application will not produce a "messy" appearance. Unlike conven-

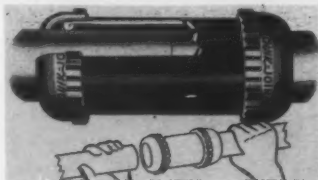
tional adhesives, this cement will not damage the thinnest honeycomb structure or cause shrinkage which results in a distorted and weak bond. Fast setting and does not require heat, pressure, nor special surface preparation. It is only necessary to apply a thin coat to one surface and allow to dry for a few seconds before joining. It dries non-tacky.

Circle No. 137 on Reader Service Card

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

Pipe Coupling

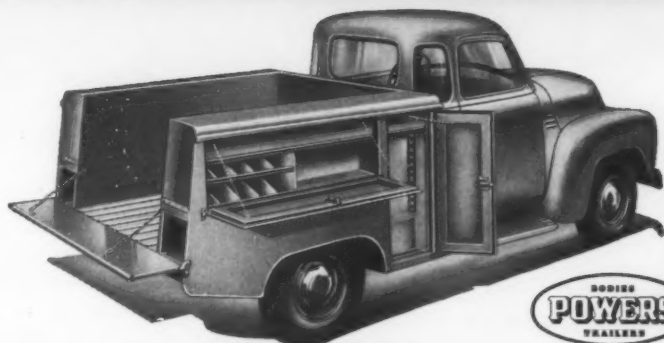
Product: Cost-cutting and time-saving coupling for joining pipe without threading.



Manufacturer: Quik-Joint Mfg. Co., Harvey, Ill.

Features: Need for thread cutting

ARE YOU LOSING \$319.37 PER YEAR



or do you have a

Service-Master

"the refrigeration service body?"

With your present truck you probably spend 15 minutes a day looking for parts or returning to your shop. If your service charge is \$3.50 per hour, you lose \$319.37 yearly.

Service-Master saves this unproductive time by taking a complete workshop to every job. Parts are easy to find—in weathertight compartments which can be locked to prevent theft. What's more, there's plenty of room for bulky items in the larger-than-a-pick-up cargo space. Get further details, today—just mail the coupon below.

*Available for
immediate delivery
in all 48 states*

Send for four-page descriptive bulletin!



McCABE-POWERS AUTO BODY CO.
5900 NORTH BROADWAY • ST. LOUIS 15, MISSOURI

Please send me literature and further information about Service-Master

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

Circle No. 42 on Reader Service Card for more information

and joint compound eliminated entirely. Close tolerance pipe measurement is unnecessary. All the installation necessary is to slip coupling over the unthreaded ends of pipe to be joined, and then tighten nuts at each end of the coupling with an ordinary pipe wrench until specially designed gaskets provide permanently sealed flexible pipe joint. Facilitates instant repair of line leaks. On lines requiring frequent cleaning or inspection, these couplings allow disassembly at any point in less than a minute. Because coupling design allows for up

to a 7-degree linear deflection, greater leeway can be made for connecting pipes out of alignment. Special gaskets absorb normal shock and vibration.

Circle No. 138 on Reader Service Card

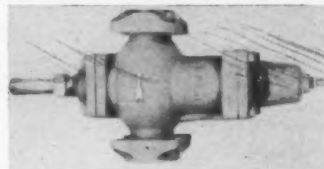
Pressure Controls

Product: Wolf-Linde evaporator pressure controls for application in dairies, packing plants, cold storage warehouses, frozen food processors, and other places where unvarying

temperatures must be maintained.

Manufacturer: Dersch, Gesswein & Neuert, Inc., Chicago, Ill.

Features: Available in port sizes ranging from 3/4-inch through 6



inches. Automatically adjust to provide predetermined evaporator pressure regardless of fluctuations in suction pressure at the compressor. This obviates constant manual adjusting and supervision, yet assures proper temperatures. Made for all refrigerants and available with flanged connections—threaded, welding, or o.d. tubing.

Circle No. 139 on Reader Service Card

For Recognized Quality - Extra Gallons

Sell Your Condensing Unit

- Filtrine Water Coolers



Mess Hall—Cafeteria Cooler



Photographic—X-ray Cooler



Typical "Packaged" Circulating Chilled Water System

Promote your own condensing unit sales with Filtrine's 20-year-life construction . . . high capacity . . . Super Storage . . . more than 40 years' dependability.

COOLERS FOR MESS HALLS — CAFETERIAS

Conform with Fed. Spec. 00-C-566b

COOLERS FOR X-RAY & PHOTOGRAPHY

PACKAGED CIRCULATING CHILLED WATER SYSTEMS

REMOTE COOLERS FOR ALL USES

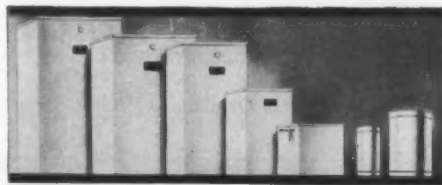
Sell your condensing unit with Filtrine Stainless Steel or Duco finished cabinets, equipped to suit with top/side shelves, bubblers, glass-fillers. Can be Taste-Master equipped to remove chlorine, rust, sediment from water.



Taste-Master

Sell your condensing unit with Filtrine models repeatedly named by V.A., Signal Corps, Air Force, etc. for X-ray, and photo-labs. Under counter design and floor-mounted models with stainless steel work-table top. Filters (extra) to prevent scratched and pin-holed negatives.

Sell your condensing unit! Systems for drinking or processing water—completely packaged with pump, controls, your condensing unit factory installed. Capacities 5—400 g.p.h.; storage 5—150 gals. Filters and Rectifier-Dechlorinators (extra) to insure taste-free, sparkling water.



Remote Model Coolers

Sell your condensing unit with remote models for new and replacement jobs—all applications. Capacities 10—1000 g.p.h.; storage 7—300 gals. Filters, Rectifier-Dechlorinators available for all sizes.



Write for Catalog and Specification Guide
FILTRINE MANUFACTURING COMPANY • BROOKLYN 5 • N. Y.

"Water Coolers and Filters for 40 Years"

Circle No. 43 on Reader Service Card for more information

Low-Temp Display

Product: Low temperature display cabinet for the self-service merchandising of ice cream or frozen juices.

Manufacturer: Penguin Sales, Detroit, Mich.

Features: Welded steel cabinet with baked enamel finish and stainless steel trim. Synthetic rubber and rubber base cement prevent moisture absorption. Dual service. Glass front and price panel on two sides makes it ideally suited to island in-



stallation. Superstructure consists of two 8-inch air shields. Fluorescent light in price molding. Refrigerated divider plates. Special attachment for quick and easy defrosting. Completely self-contained. 1/3-hp air cooled condensing unit uses Freon-22. Refrigerant flow controlled by capillary line, accumulator, heat exchanger assembly which increased efficiency of condensing unit. Factory adjusted thermostat. Moisture-

proofed glass fiber insulation on all four sides and bottom. Available in 44, 54, and 74-inch lengths, with overall width of 28 inches, serving height of 36 inches and overall height of 44 inches.

Circle No. 140 on Reader Service Card

Volt-Ammeter

Product: Clamp type, hand sized volt-ammeter.

Manufacturer: Columbia Electric Mfg. Co., Cleveland, Ohio.

Features: Measures up to 600 amperes with four current ranges, and up to 600 volts with two voltage ranges. Ampere readings made without breaking circuit or insulation. Pressing of convenient trigger opens



insulated jaws so that they can easily encircle power cable or bus bar. Jaws will accommodate cables up to 1½ inches in diameter and bus bars up to 2 x ½ inches. Voltage leads are quickly and safely plugged into handle of instrument. Weighs less than 2 pounds. Trigger and housing are ruggedly constructed of durable molded phenolic material. Accuracy is plus or minus 3% of full scale deflection. Includes voltage leads and carrying case.

Circle No. 141 on Reader Service Card

Oil Additive

Product: "Addit 88" oil additive for use with lubricating fluids in refrigeration systems.

Manufacturer: Sealed Unit Parts Co., New York, N. Y.

Features: Tests have shown that use of this additive results in higher Btu efficiency and better performance in current consumption even on new units. Highly penetrating film of this additive prevents formation of carbon and sludge deposits on bearing surfaces and increases film strength of oil as much as seven times. Also removes any deposits of

carbon or sludge already formed on bearing surfaces. Once added to a system it remains there for the life of the unit. Put a coat of film on all metal surfaces, thereby minimizing friction between moving parts. Effective over a wide temperature range from -60 to 600 F, and actually serves as a lubricant coolant. Completely neutral with all refrigerants and has proven invaluable for lubrication of refrigerant controls. Contains rust solvent and corrosion inhibiting ingredients.

Circle No. 142 on Reader Service Card

Trailer Cooler

Product: "Sno-Breze" cooling and ventilating unit for house trailers.

Manufacturer: Palmer Mfg. Corp., Phoenix, Ariz.

Features: Made of rust-resistant galvanized steel. Easily mounted on ceiling ventilator, and dismantled for traveling if desired. Grille is available with adjustable vanes to direct air flow in desired direction. Cools, washes, and filters air of pollen and dust. Removes smoke and cooking odors immediately. Two-speed control. Installation can be made in 15

RESULTS in MINUTES ... NOT HOURS!



Thawzone starts to eliminate moisture as soon as it mixes with the refrigerant. Time is not lost waiting for the refrigerant to pass through a cartridge many times. With cartridge driers, only a small percentage of the charge is in contact with the holding elements.

With Thawzone, an enormous number of molecules of this liquid drier make contact with moisture throughout the entire unit. . . . AT THE SAME TIME You are able to put the unit back into operation promptly without further freezeups.



FREE OF CORROSION AFTER 2 YEARS

The above needle valve was removed after two years of continuous use in a Thawzone-treated system. Thawzone maintained clean corrosion-free surfaces. This could not be accomplished if alcohol were used. The destruction of water

by Thawzone is an important action. The moisture is not held in the unit to invite freezeups, corrosion and callbacks later. Do you really know these facts on Thawzone?

1. Reaches all parts of the unit.
2. Actually destroys moisture . . . not a mere antifreeze.
3. A patented invention . . . cannot be copied.
4. No pressure drop possible.
5. Not subject to oil clogging.
6. Neutralizes acids and prevents corrosion.
7. Prevents copperplating.
8. Prevents moisture trouble in new units.
9. Costs less. Only about 8¢ per lb. of refrigerant treated.
10. One product for all "Freon" and methyl units.
11. Only ¼ oz. per lb. of refrigerant required.

Order a bottle of Thawzone from your wholesaler today. Highside Chemicals Co., Clifton, N. J.

THAWZONE®

The Only Product That
Destroys Water . . .
and Reaches All of it

Circle No. 44 on Reader Service Card for more information

minutes. Recirculating pump available at small extra cost, making it possible to use the same water over and over again, solving drainage problem and assuring better cooling.

Circle No. 143 on Reader Service Card

Heating Unit

Product: All-purpose "Pac" gas-fired heating unit for either unit heater or central heating applications.

Manufacturer: Reznor Mfg. Co., Mercer, Pa.

Features: Approved by AGA as a central heating gas appliance for use with or without ducts, and as a unit heater for use with or without ducts. Compactly designed so that 100,000 Btu model measures only 22 x 23 x 47½ inches. All controls enclosed within trimly designed case. Operates with natural, manufactured, mixed and LP gases. Versatility makes it adaptable to many kinds of heating problems, from application as unit heater in factory to central heating plant for home. Flanges on both ends can be fitted with standard

louver panels or used to connect ducts. Four tapped sockets provided on both top and bottom for either suspended or base mounting. Flue can be used from top or side.

Circle No. 144 on Reader Service Card

Upright Freezer

Product: 20-cu. ft. "Cold Shelf" vertical freezer.

Manufacturer: August G. Bar-kow Mfg. Co., Milwaukee, Wis.

Features: Will store up to 700 pounds of food. Three fast-freezing shelves. Deep well for large items. Easy-to-open door. Hermetically sealed unit. All hardware chrome plated, including convenient frost-breaking lock. Basic construction of 20-gauge steel on exterior and 22-gauge aluminum on interior.

Circle No. 145 on Reader Service Card

Restaurant Case

Product: "Saladessert" refrigerated food service fixtures available either as wall cases or double service cases.

Manufacturer: Stainless Steel Food Equipment Co., Newark, N. J.



Features: Built of stainless steel in modern design. With refrigerated lower display behind sliding glass doors they provide inviting setting for salads and desserts. Available with or without refrigeration in lower display section, with or without water station, and with or without upper display section, to provide utmost in flexibility of application in all types of food service establishments. Specially designed to join with other matching units to form continuous back-bar, needing only addition of contour strips between units.

Circle No. 146 on Reader Service Card
AUGUST, 1952 • COMMERCIAL REFRIGERATION

ROTARY SEAL Replacement Units

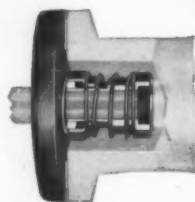
AT ALL
LEADING
JOBBERs

Easy to Install
Efficient in Operation
Simple in Construction
Economical

For Commercial, Semi-Commercial, Air Conditioning, and Household Refrigerator Compressors....over 20 years of performance proof..
.. Units available for all standard makes.

AVAILABLE
FOR MORE THAN
900
COMPRESSOR MODELS

UNIT NO.



4215



"Seal with

Certainty!"

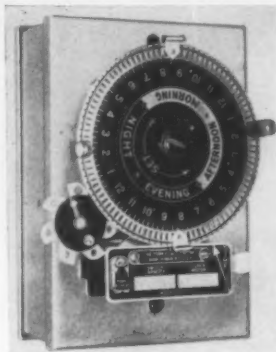
2020 NORTH LARRABEE STREET
CHICAGO 14, ILLINOIS, U.S.A.

CANADIAN AGENT: 2025 ADDINGTON AVENUE
MONTREAL 28, QUEBEC, CANADA

Circle No. 45 on Reader Service Card for more information

Air Conditioner Timer

Product: Portable, plug-in, automatic timer switch for air conditioners up to and including 3/4-hp capacity.



Manufacturer: Time Trol Co., New York, N. Y.

Features: Has 24-hour dial, divided with 6 hours for morning, 6 for afternoon, 6 for evening, and 6 for night. Has two sets of "on" arms and two sets of "off" arms, allowing for two on-off settings daily. One model has an "omit" wheel which allows setting of air conditioners to remain "off" any day or combination of days desired. Unless setting is changed it will continue to operate each week on the schedule set. Timed by Tork and motored by Telechron.

Circle No. 147 on Reader Service Card

Home Freezer

Product: "Freeze Pantry" upright home freezer.

Manufacturer: Refrigeration Div., Ryan Industries, Hopkins, Minn.

Features: Highly sensitive electronic warning alarm and signal light



to guard against food spoilage due to rise in temperature. Freezer has 19-cu. ft. capacity and will store 665 pounds of food, yet occupies less than

1 sq. yard of floor space. Perpetual food inventory built into inside of outer door. Each of four separate compartments has two doors for easy access. Adjustable temperature control. A built-in heat wire greatly reduces possibility of condensation on cabinet breaker strip. Powered by 1/3-hp Tecumseh hermetic unit. Copper tubing throughout. Aluminum liner. Freon-22 refrigerant. Individually refrigerated shelves and glass fiber insulation. Condensing unit is of "pull-out" type for easy service.

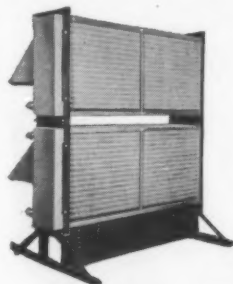
Circle No. 148 on Reader Service Card

Air Purifiers

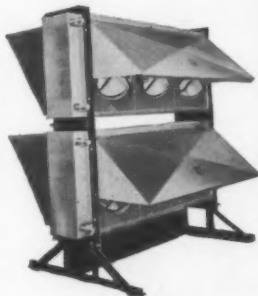
Product: "Nu-Air" activated carbon equipment for air recovery and air purification.

Manufacturer: Aerotrol Engineering Corp., Pittsburgh, Pa.

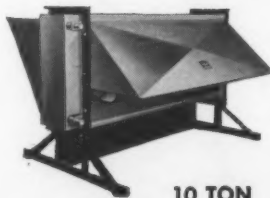
Features: Performs basic function of removing odors from air and gases by means of adsorption by specially prepared activated carbon. Available in cannisters or panels in standard designs or special designs for special applications. Rugged construction insures long life. Greater exposure of carbon provides greater efficiency.



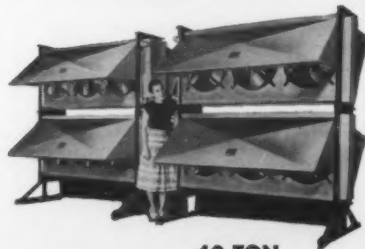
20 TON



20 TON



10 TON



40 TON

SPECIAL APPLICATIONS — Write to us about your condensing problem.

WRITE FOR BULLETIN U-177-S

KRAMER TRENTON CO. • Trenton 5, N.J.

Circle No. 46 on Reader Service Card for more information

For special applications, equipment will be made from various metals for use under any stringent or corrosive conditions.

Circle No. 149 on Reader Service Card

Rust Preventative

Product: Rust Inhibitor No. FD-425.

Manufacturer: United Laboratories, Inc., Cleveland, Ohio.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

Features: Will dry in 10 minutes under normal drying conditions. One coat provides excellent hiding of old metal surface, reducing painting costs up to 50%. Will withstand temperatures from -100 F to 250 F. Exceptionally resistant to salt air and fumes. May be applied over damp surfaces, interior or exterior, galvanized metal and new or rusted metal surfaces of all kinds. Leaves attractive semi-gloss finish and is available in colors, aluminum, and clear.

Circle No. 150 on Reader Service Card

Why a Heat-Exchanger?

1. Increase overall capacity—reduce running time as much as 20%
2. Cool liquid refrigerant—eliminate flash gas—increase capacity of expansion valve
3. Prevent frost-back
4. Vaporize liquid in suction line

why a Superior heat exchanger...

- ★ Accumulator—assures full vaporization of liquid. External equalizer connection where needed
- ★ Negligible pressure drop—excess restriction would nullify most benefits of a heat exchanger
- ★ High efficiency—copper heat transfer surfaces—maximum capacity per unit size
- ★ Heavy brass shell—sturdy construction—silver solder joints
- ★ Other applications—water cooling, chemical processing



For a more efficient installation—ask your wholesaler for a Superior heat exchanger!

Superior
valve and fittings co.

Pittsburgh 26, Pa.



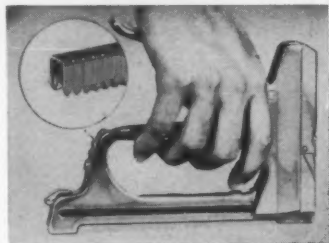
Circle No. 74 on Reader Service Card for more information

Stapling Gun

Product: Handy new pocket-sized stapling gun.

Manufacturer: Heller Co., Cleveland, Ohio.

Features: Sturdy streamlined tool packs five times the power of ordinary one-hand industrial tackers. First one-



hand tacker capable of fastening metal or fibre. Does any fastening job in one-fifth the time required by hammer and nails. Heavy-duty staples are five times normal size and have super-clinch locking feature. Operator uses gun with one hand, holding work with other, and fires staples as fast as he can pull the trigger.

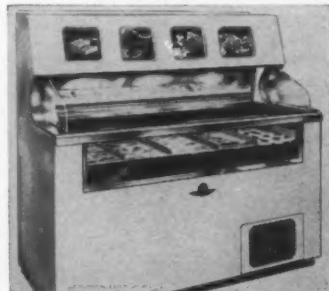
Circle No. 151 on Reader Service Card

Frozen Food Merchandiser

Product: Model OG-15F frozen food merchandising cabinet specially designed and priced to meet the needs of retailers with modest frozen food sales.

Manufacturer: Ace Cabinet Corp., New York, N.Y.

Features: Embodies all desirable features of more expensive cabinets, yet has a huge angle mirror in the



back that fully reflects interior of cabinet. Entire unit, including superstructure, is made of one piece welded steel, trimmed with stainless steel. Finish is high gloss white enamel. Condensing unit is hermetically sealed. Special "glide out" feature facilitates cleaning or servicing. Measures approximately 65 inches

long, 30 inches wide, and 59 inches high, with capacity for over 500 packages. Full color 3-dimensional pictures, product strips, prices and fluorescent illumination are supplied.

Circle No. 152 on Reader Service Card

V-Belt Sheaves

Product: Line of V-belt molded sheaves for light machinery drives.

Manufacturer: W. C. Products, Inc., Santa Monica, Calif.

Features: Molded from Compolene, a new type of fibrous material molded to close tolerances under high pressure. Possesses an extremely hard wearing surface that is unaffected by moisture, oil, or temperature. Cannot rust or corrode. Stocked in sizes from 2 to 6 inches o.d. in gradations of $\frac{1}{2}$ inch. Bore sizes are $\frac{1}{2}$, $\frac{5}{8}$, and $\frac{3}{4}$ inch, with or without keyways.

Circle No. 153 on Reader Service Card



The new hydrogen-sensitive EMV-7 Leak Locator announced by the RCA Scientific Instrument Section is ready to go to work within two minutes to locate tiny leaks in glass and metal vacuum systems, such as are employed in the manufacture of X-ray tubes, vacuum flasks, magnetrons and lamps, of any size or construction. It is also used to locate leaks in vacuum stills, vacuum furnaces, mass spectrometers, cyclotrons, experimental vacuum research equipment, vacuum coating equipment, refrigeration equipment, electron microscopes, infra-red spectrometers, and electron-diffraction equipment.

SUNROC GETS USMC ORDER

The United States Marine Corps has awarded a contract in the approximate amount of a quarter million dollars to the Sunroc Co., Glen Riddle, Pa., for the manufacture of a large quantity of electric water coolers. Orville Morrison, president of Sunroc, said that the contract covered both bubbler and cafeteria types for both foreign and domestic installation.



this makes sense!...

Why not represent a product which combines manufacturing 'know how' with technical skill and design appeal? For many years UNITED engineers have been giving you products which have set standards for the trade.

and dollars too!!

With improvement and refinement a constant urge UNITED has a unit for practically every need, Select UNITED and your sales will tell you why.



For complete information
phone, wire or
write today

United
REFRIGERATOR COMPANY

Locust & Walnut Streets
HUDSON, WISCONSIN
EXPORT SALES DIVISION
Scheel International, Inc.
4237 N. Lincoln Avenue, Chicago, U. S. A.

Circle No. 48 on Reader Service Card for more information

Heat Exchange Equipment Needs Proper Maintenance

MANY problems are daily arising in the maintenance of heat exchangers, economizers or other equipment used for heat exchange in the field of refrigeration, and particu-

This is a condensation of a talk delivered at a recent regional industry meeting by Frank Philabert, president, Chemical Solvent Co.

larly air conditioning. The conventional economizer or evaporative condenser is built compactly, and there are spaces and surfaces in the system over which no water passes at all, yet these places and surfaces accumulate scale or corrosion.

We have been asked by numerous operators why it is that scale and

corrosion accumulates where no water touches. The answer is that in most installations the cycle of heat exchange consists of water being sprayed over pipe lines, some of which are plain and others finned. At the same time fans installed above the water tract are drawing thousands of cubic feet of air from the atmosphere per minute.

While the water has a reasonably small amount of impure substance in it, the atmosphere had untold quantities of flying materials, organic and inorganic. Furthermore, in ratio to the amount of water used in a system, there are thousands upon thousands of cubic feet of air taken from the atmosphere in general.

Scale Forms From Air

In industrial sections and even in agricultural sections, there is ever present a quantity of vegetables and mineral substances in the atmosphere. When these substances are drawn into a condenser it is no wonder that scale forms, not only wherever the water flows but on all other surfaces as well.

The idea that a water treatment is necessary has its merits, but the chief cause of the trouble is, as has just been pointed out, the impurities from the atmosphere. If we resort to using constantly fed chemicals into the systems, we are confronted eventually with clogged up lines and deposits of the water treating chemicals used, due to the fact that the successful operation of the heat exchanger depends on the evaporation of the water and the fact that the average chemicals do not evaporate with the water.

Chemicals Cause Clogging

Another trouble with using chemicals constantly is that the average condensing unit having a pan depends on an overflow mounted several inches from the bottom and excess water flows through this outlet. Some thought should be given to this form of installation because it seems to me that the waste water should be taken from the bottom of the pan, because that is where all of the dirt and other precipitated matter generally accumulates.

In cases where there are closed condensers, like a horizontal or vertical condenser, and the water goes in on one side and out the other, it is necessary to occasionally clean these devices because scale and other objectionable substances do accumulate on the surfaces and impair the heat



"Keep cool with ESTON!"

**METHYL CHLORIDE
SULFUR DIOXIDE**
Distributor of "Kinetic" Chemicals "Freon" refrigerants.
"FREON 11"—"FREON 12"
"FREON 21"—"FREON 22"
"FREON 113"—"FREON 114"

In Standard Containers

ESTON CHEMICALS, INC.
3100 E. 26th St., Los Angeles 23

**SALES OFFICES
IN ALL PRINCIPAL TRADING AREAS**

ESTON REFRIGERANTS

ESTON REFRIGERANTS ARE FOR SALE BY LEADING REFRIGERATION WHOLESALERS EVERYWHERE.

Charge-A-Can
NO CYLINDERS • NO DEPOSITS
DISPOSABLE CONDENSER UNIT
"FREON 12" • "FREON 114"
SULFUR DIOXIDE

ESTON
Cools the Country!

Circle No. 49 on Reader Service Card for more information

exchanging properties of the devices.

This situation can be remedied by having a pump with a small motor and a bucket or tub into which the proper cleaning materials are put. The cleaning compound can then be circulated through the condensers until they are clean. It is surprising how easy it is to do this, and also how efficient an operation can be kept with this form of maintenance.

In the case of cooling towers, not only the substances from the atmosphere get into the water, but birds and animals use the ponds for bathing or drinking purposes and leave substance in the water that cause rapid growth of very vigorous and tough organisms.

We have collected scale and vegetable deposits from practically all



major places in the world. We have found that while water is the same the world over, the difference is in the impurity content of the water. To illustrate this, if pure water is wanted, water can be taken up at most any source and put through a distilling apparatus and the resultant distilled water is always the same whether the prime water be taken from the middle of the ocean or any other place.

In our research efforts we have personally worked in a variety of places both large and small, in day and even at night, in order to get first-hand information as to what actually takes place in the average operation, and we have come up with an idea which we believe is worth consideration.

Whenever the system needs cleaning, we suggest that the maintenance man put the proper material into it and then, in order to reach all areas, take a piece of 1/2-inch o.d. copper

tubing, cap it at one end, drill a 1/8-inch hole in the sides of the tube near the cap, and solder on the other end a hose connection sufficiently long to reach all corners of the condenser. The cleaning solution can be taken up from the pan through a pump and pumped throughout the system in all directions.

We have found that in many cases scale deposits would be disintegrated by the cleaning material but, because there was not sufficient velocity or volume of water, the broken down

scale would become firmly imbedded in inaccessible places and would form a nucleus for a worse condition.

The material which we have found to be most successful as a cleaner is a material which breaks down the binding factors which form scale and thus causes the scale to be washed away as a sludge. We have found that scale like concrete is formed with a body of sand, silt, mud, vegetable matter or other substances which are bound together with lime, magnesia or iron in solution. To safely remove

Now, say

FLEXON

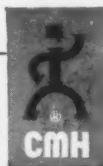
when you specify
Vibra-Sorbers
for compressor
lines



**... your best assurance
of long, dependable service**

With the change of our corporate name from Chicago Metal Hose Corporation to FLEXONICS Corporation, Rex Super-Service Vibra-Sorbers are now known as FLEXON Super-Service Vibra-Sorbers. Only the trade name is changed, however—Vibra-Sorbers still provide the effective, dependable vibration control that has made them the preferred connector for refrigeration and air conditioning compressor lines.

Standard bronze units are available in sizes from 3/16" through 4". Steel or stainless steel units are also available. Write for data sheets and prices.



Flexon identifies
CMH products that
have served industry
for over 50 years.

CHICAGO METAL HOSE Division

Flexonics Corporation

1321 S. Third Avenue • Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion
joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

Circle No. 50 on Reader Service Card for more information

these substances from any water circulating system we simply put our compound into the system, using a color indicator to determine the quantity needed. We then allow the system to operate normally, pumping the solution to the spaces otherwise impossible to reach.

After a system has been cleaned we have formulated a compound that forms a membrane film over the surfaces. It is a good idea to pump this material over the entire inner surface, as it will act as a protector for the equipment.

FIBERGLAS PIPE INSULATION IMPROVED

An increase in the density of Fiberglass preformed pipe insulation has been announced by Owens-Corning Fiberglas Corp.

Compared to its predecessor product of lesser density, the new product is described by Owens-Corning engineers as being firmer and more rugged, with greater ability to withstand the type of handling encountered in normal applications.

Despite the increased density, the new product retains its lightweight

qualities. Cutting and application are easy, Fiberglass engineers point out.

Fiberglass pipe insulation does not cause corrosion and is not affected by moisture. It is odorless and provides no sustenance for insects, mold growth or vermin.

The insulation has high thermal efficiency because minute, still air pockets formed between the fine fibers of glass—provide high resistance to heat transmission.

The product is furnished in hemicylinders, three feet long, for pipe sizes ranging from 3/8-inch copper tubing through 12-inch iron pipe. Segments three feet long are furnished for iron pipe ranging in size from 12 inches through 33 inches.

NEW K. C. WAREHOUSE FOR HUBBELL METALS

Hubbell Metals Inc. has completed a new modern warehouse at 801 Atlantic Ave. in North Kansas City to replace its present buildings at 510 and 507 Wyandotte St. This plant is constructed in the center of a large site which allows plenty of room for future expansion. A large parking area is provided for customer and employee parking. The new Kansas City warehouse is the second in a building expansion program now under way, the first being a 54,000 sq. ft. warehouse constructed in St. Louis, and now in full operation.

The new warehouse has temperature controlled heat to prevent moisture condensation, thereby eliminating the possibility of corrosion to the metal stocks. "Weather-proof" shipping dock is completely enclosed against prevailing weather conditions. The receiving dock has private railroad facilities of the Burlington Railroad. Carl D. Garfinkel is manager of the Kansas City branch office.

ALLIN PRODUCTS SHOWN TO FORT WAYNE RSES

A talk and demonstration of the products that Allin Mfg. Co. makes for the refrigeration and air conditioning field was given recently by Dick Hendrickson of that company before a meeting of the Fort Wayne, Ind., chapter of RSES.

Actual application of Allin products to various problems was illustrated by Hendrickson in his talk, which was followed by a question-and-answer period.



Ingenious change means extra years of solenoid coil life

When moisture condenses in the coil chamber of a solenoid valve, there is always danger of shorting. This danger has been largely avoided in Marsh-Electrimatic Valves by making the coil highly impervious to frost and moisture, *but*—

A still better precaution is to prevent condensation forming!

This has now been accomplished in Marsh-Electrimatic Valves by a thermal block which prevents coil temperature from dropping to the dew point of surrounding atmosphere.

The test, pictured above, shows how well it functions! Two Marsh Valves, with and without the thermal block, are mounted side by side on the suction line of a Freon 12 system adjusted to frost clear back to the compressor. The valve with the thermal block was given the coldest position. Maximum frosting was assured by maintaining relative humidity at 98%.

The photo, taken after several days of operation, clearly shows that no frost

formed within 1/4" of the coil housing. Conversely, the valve without the block transferred its heat to the cold valve body; condensate appeared, and in a short time it was completely covered by frost as shown.

This new feature makes Marsh-Electrimatic Valves particularly well suited for use on cold suction and cold water lines. And remember: it is added to the many features that distinguish Marsh-Electrimatic Valves from all others. (See your jobber).

Marsh Electrimatic Solenoid Valves are made in three series covering all requirements. Ask for bulletin.

MARSH INSTRUMENT CO. Sales affiliate of Jas. P. Marsh Corporation Dept. P, Skokie, Ill.

MARSH-Electrimatic



Circle No. 51 on Reader Service Card for more information

FLUSH MOUNTING DESIGNED FOR WINDOW COOLERS

For application to buildings where rental rules prohibit the use of any type of air conditioner which protrudes beyond the face of the building, Mitchell Mfg. Co. has developed a new installation technique for window type air conditioners which permits them to be installed entirely within the area to be conditioned.

This device is simple and attractive, consisting of a limed oak stand which houses the entire Mitchell window



New method of air conditioner installation by Mitchell Mfg. Co. shows how a window cooler can be used even when building rules forbid equipment projecting beyond building line.

cooler, allowing the section normally placed outside the window to be placed in the room. At the same time, the construction provides for the discharge of heat outside the window and for 100% operating efficiency. No outside protrusion is necessary. A number of the new installations have been made with excellent results, the company reports.

A typical example is an installation (pictured) by Refrigeration Systems, Inc., in a new ultra modern "Gold Coast" apartment building at 1350 Lake Shore Drive, Chicago. In this particular instance, the problem was complicated by the use of casement type metal windows and a radiator beneath the window.

After thorough testing, Refrigeration System's engineers reported four distinct advantages of the installation. These were:

- (1) The building rules were followed exactly—no part of the air conditioner being outside, preserving the exterior line of the building.
- (2) The cost of the room air conditioner plus the console stand and installation was 50% less than the

cost of a console unit.

(3) The installation formed an attractive piece of furniture with a high functional value, adding considerable shelf space to the room.

(4) The radiator was free to operate without obstruction in winter.

PACKAGED UNITS SOLVE SKYSCRAPER'S PROBLEM

The problem of air conditioning office space in existing tall buildings, without wasting valuable floor area or city water, is finding its solution

in the use of packaged equipment with built-in evaporative condensers.

A new installation of this type, utilizing a 20-ton unit for conditioning 5,000 sq ft. of office area in a New York City skyscraper, is reported by United States Air Conditioning Corp. The self-contained equipment serves the newly established offices at 205 East 42nd St. of Kurt-Orban Co., Inc., American representatives for German and French heavy equipment manufacturers. It was installed by the Cort Mechanical Corp., contractor.

Don't be satisfied with less!

Get these 3 Big Advantages only with



McINTIRE DC FILTER-DRIERS



1. Fast Drying

You get first-pass drying with DC Filter Driers. In a single pass, the refrigerant is dried to minus 60° dew point. All moisture is absorbed on contact, held permanently in drier. Wet systems restored to normal operation in minutes.



2. Deep Drying

The refrigerant is dried to such low dew-point, no further moisture can be condensed out at low temperatures along the line. No repeated warming of valves or cycling necessary. Pocketed moisture is swept out of every trouble spot, returned to drier for permanent removal.



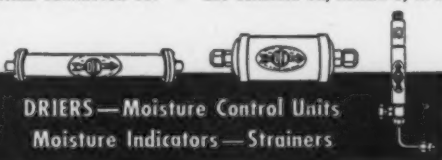
3. Full Filtering

Each DC Filter-Drier contains large, effective, progressive filtering media at each end, to filter out all fines, sludges, flux and particles. Assures clean systems with free flow.

Your biggest drier value is a DC Filter-Drier. At wholesalers everywhere.

McINTIRE CONNECTOR CO. • 257 Jefferson St., Newark 5, N. J.

Our 27th Year



DRIERS—Moisture Control Units
Moisture Indicators—Strainers

Circle No. 52 on Reader Service Card for more information

CORBIN LEAVES VIKING TO FORM SALES AGENCY

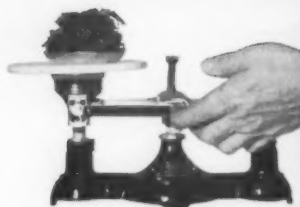
Carl E. Corbin, vice president and general sales manager of Viking Refrigerators, Inc., Kansas City, Mo., has announced that his interests have been sold to Arthur S. Bird, Viking president, and that he has terminated his services with this firm to become a manufacturer's representative.

Corbin, as president of Viking Sales Corp. and Equipment Finance Co., also sold his interest in these two firms to Bird. Corbin had been with Viking 30 years.

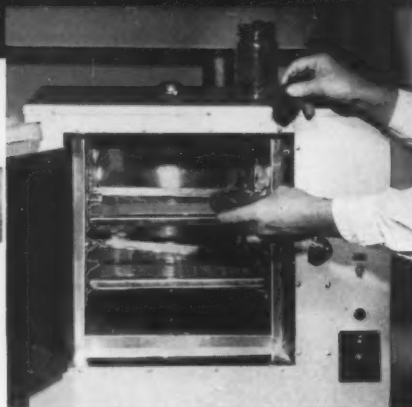
L. A. Platz, formerly regional sales manager of Viking's central division, has joined with Corbin to form the Corbin and Platz Sales Agency. As manufacturer's agents, they will handle refrigeration equipment and parts, food store equipment and allied lines. This new firm will do business in Missouri, Kansas, Nebraska, Oklahoma, Iowa, Louisiana, Arkansas, Texas and Colorado. Their address is P. O. Box 3437, Kansas City, Mo.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

In-place field tests show DECREASING MOISTURE CONTENT



Weight of Palco Wool is checked before and after oven drying to determine accurately the moisture content.



Palco Wool Insulation removed from measured space in refrigerator wall is placed in glass jar and hermetically sealed for transportation to laboratory.

...of **PALCO INSULATION WOOL** in actual use

Extensive in-place field tests by impartial scientific refrigerating engineers have shown that moisture content of Palco Wool Insulation actually decreases over extended periods of use. Normal moisture content of Palco Wool when shipped averages 15%. Samples taken from the center of wall cavity in typical refrig-

erator walls ranged from 8.18% to 12.45%. This is due to Palco Wool's ability to permit free travel of moisture toward the cold side, resulting in continuous maximum insulating efficiency. For complete results of these important field tests, request Technical File No. CR-4.



THE PACIFIC LUMBER COMPANY

100 BUSH STREET, SAN FRANCISCO 4, CALIFORNIA
35 EAST WACKER DRIVE, CHICAGO 1, ILLINOIS

Circle No. 53 on Reader Service Card for more information

NEW HOMES FEATURE ALL-YEAR CONDITIONING

What is believed to be the first large-scale development in New Jersey to feature complete year-round air conditioning was announced here recently by James D'Agostino, prominent New Jersey builder.

D'Agostino said that the second section of his Haworth Manor project would have General Electric heating and cooling in each home. There will be 65 homes in this section. The completely air conditioned 6-room houses are in the \$22,000-\$29,000 price range.

General Electric officials hailed Haworth Manor as a milestone in the home air conditioning field. The fact that it is in New Jersey is important evidence, they said, that residential air conditioning is of interest to people in northern climates and not restricted to the south alone.

"People everywhere are thinking and talking about the benefits and comforts of home cooling," said S. J. Levine, general manager of the G-E home heating and cooling department. "Home cooling today is practical and within the means of the average home owner. The age of residential air conditioning has definitely arrived, as testified by this project and others throughout the country."

The year-round air conditioning system in the Haworth Manor model house consists of G.E.'s residential packaged cooling unit and a G-E gas-fired warm-air furnace. The same duct system brings filtered cool or warm air to each room in the home. Two separate thermostats automatically assure the home owner of healthful, even temperatures all year-round. Controlair Co., Fort Lee, N. J., G-E distributor, made the installation.

DUVAL TO HANDLE USAIRCO ROOM UNITS

Duval Distributing Corp., of Richmond, has been appointed distributor of window type room air conditioners in the state of Virginia by United States Air Conditioning Corp.

The company, which has wide dealer coverage throughout the state, was organized shortly after World War II.

It is headed by Harry G. Duval, president, and Allen N. McCarty, general manager. James Lacy is promotion and advertising manager. Its main office is at 1221 Admiral St.

**Completely new
for fifty-two!
New improved
MUELLER BRASS CO.
globe type
line valve**



Write for catalog R-152
describing complete line
of STREAMLINE refrig-
eration products.

Incorporating many new engineering refinements, these highly polished globe-type line valves for 1952 are designed and built to withstand the most severe operating conditions. In these new valves, an especially designed "O" ring chamber between body and collar provides positive seal regardless of the range of temperatures and pressures. As the union collar is tightened, the ring is compressed until its shape in cross-section is triangular, which utilizes both the "O" ring and gasket principle to provide an effective and permanent seal. The Nylon stem disc is tough, resilient and unsurpassed for refrigeration valve seating. Simplified construction assures easier, much quicker installation.

STREAMLINE refrigeration products are individual and multiple packaged for complete protection.

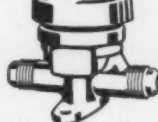
DRIERS AND FILTERS

WROUGHT COPPER FITTINGS

FLARE FITTINGS

LIQUID INDICATORS

VALVES



MUELLER BRASS CO. PORT HURON 12, MICHIGAN

Circle No. 54 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

ABOUT PEOPLE . . .

Continued from page 40

manager of the heating controls division. **R. D. Grayson**, has been named manager of the appliance controls division. **Rudy Roedder** has been appointed western refrigeration controls division manager, under the supervision of **Douglas Sterner**, manager of the refrigeration controls division with headquarters at General Controls' midwest plant in Skokie.

E. A. Bonneville has announced his resignation as general sales manager of Remington Air Conditioning Division, Remington Corp., Auburn, N. Y., effective July 1. He has been with Remington, manufacturers of personalized air conditioning units from 1/3-hp to 1½-hp, since October, 1949, at which time he assumed the



position he is resigning. Bonneville has been associated with the industry for over 25 years, first in the capacity of a retail salesman and distributor representative, and then in distributor's and manufacturer's sales executive positions. His future plans are indefinite but that he expects to stay in the merchandising field.

In recent changes in the sales organization of Acme Industries, Inc.,



R. E. Mercer



C. Millson

R. E. Mercer has been named director of merchandising and **Carl Millson** has been appointed sales manager for the air conditioning and refrigeration division. Mercer, long identified with the air conditioning and refrigeration industry in various sales and executive capacities, had served as national sales manager for Kalamazoo Stove & Furnace Co. prior to his association with Acme. Millson takes on the sales direction of the air conditioning and refrigeration division in addition to his present assignment as head of the Flow-Cold division.

Vincent P. Black has been named a vice president of Grant Advertising, Inc. He will serve as account executive in the Grant Detroit office on the Chrysler Airtemp, Udylyte Corp. and Fred-eric B. Stevens, Inc., advertising accounts. Prior to joining Grant,



Black was vice president and manager of the controls division of Perfex Corp. Previously he had served the Chrysler Airtemp organization in a variety of executive capacities, including that of advertising and sales promotion manager.

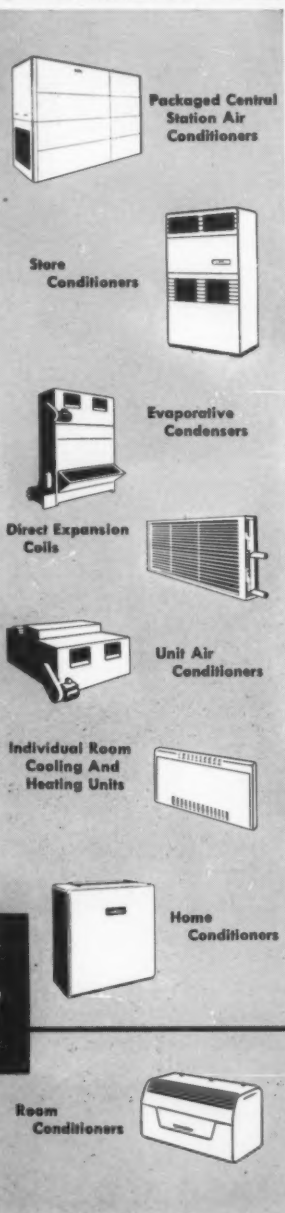
*Designers and
manufacturers of a
complete line of
refrigerated air
conditioning
equipment
for jobs you can be
proud of*

Address Inquiries to: Dept. CR 852

EVERYTHING IN AIR CONDITIONING

usAIRco

UNITED STATES AIR CONDITIONING CORP.
MINNEAPOLIS 14, MINNESOTA



Circle No. 55 on Reader Service Card for more information

Three staff training representatives have been added to the retail sales development department of Servel, Inc., manufacturer of refrigerators, water heaters, and year-around air conditioning equipment. The new trainers are **F. W. Dadson**, of Santa Ana, Calif., and **L. P. Westheideman** and **Ferd G. Laux**, both of Evansville, Ind. Dadson, a product specialist in Servel's west coast region from 1947 to 1950, has been a sales representative for George D. Roper Corp. in Los Angeles for the past two years. Westheideman formerly was a sales supervisor with Bankers Life & Casualty Co. Laux, a 19-year Servel veteran, has been a dealer representative in the company's local sales branch for the past two years.

the refrigeration industry. Since 1946, he has been sales counselor for Westinghouse Electric Supply Corp., serving the St. Louis area and parts of Missouri and Illinois.

M. L. Judd has been appointed general sales manager of Remington



M. L. Judd



R. A. Johnson

J. K. Noel, Jr., vice president in charge of sales for Victor Products Corp., announces the appointment of **Harry E. Corley** as district sales manager of its central territory. His headquarters will be in St. Louis. Corley comes to Victor well qualified with years of previous experience in

Air Conditioning Div., Remington Corp., succeeding **E. A. Bonneville**, who has resigned. **Russell A. Johnson** has been named military specialist for the Remington organization. Judd, who has had broad experience in residential heating and air conditioning, leaves the position of gen-

eral manager of the specialty merchandising divisions of U.S. Radiator Corp. to join Remington. Johnson, who will direct his efforts toward expanding the military and industrial applications of Remington equipment, most recently served as assistant to the refrigeration sales manager of Houdaille-Hershey Corp.

F. C. DeLorenzo has been appointed supervisor of the General Electric Co.'s Air Conditioning Div. News Bureau, according to an announcement by **G. W. Hart**, manager of advertising and sales promotion of the Division. DeLorenzo has been with the G-E Air Conditioning Div. since 1948.

Formation of a new advertising department to handle all advertising and publicity for Aerovox Corp., including the Hi-Q Div. and the Wilkor Products, Inc., a subsidiary, has been announced. **William B. Tanner** will be director of advertising in charge of this new department. He was former-

FREEZ-RITE

DAIRY PRODUCTS Display CABINET



MODEL GD-2956

Designed to S-E-I-L dairy products for BOTH super market or corner grocery. Brilliant fluorescent lighting floods all three levels. BIG full-view thermopane window. Wider, lower service opening. Time clock AUTOMATICALLY defrosts coils during early morning hours. Blower and large capacity cooling coil eliminate spoilage LOSS due to faulty uneven temperature.

FREEZ-RITE DIVISION

BAILEY & PERKINS COMPANY
44464 Van Dyke Ave. Utica, Mich.

SEND FREE CATALOGUE TO HELP ME MAKE DECISION

Name _____ Firm Name _____
Street _____ City _____ State _____

Circle No. 56 on Reader Service Card for more information

and AIR CONDITIONING • AUGUST, 1952

thar's GOLD

in them thar' Pre-bilt SHELVES!

INSTALL COMPLETE

FOOD STORES

Now you can figure complete jobs with Hirsh Pre-Bilt Shelving Equipment! The Hirsh Plan enables you to sell wall and gondola units that the merchant can assemble himself.

EASY TO INSTALL
FULLY ADJUSTABLE

HEAVY DUTY CONSTRUCTION
PROFITABLE FOR YOU



Write now for complete information—no obligation!

Circle No. 57 on Reader Service Card for more information

S. A. HIRSH MFG. COMPANY
8051 CENTRAL PARK AV., SKOKIE, ILL.
Chicago phone: Cornelia 7-4140

Name _____
Address _____
City _____ Zone _____ State _____

ly advertising and personnel manager of the Hi-Q Div. Fred P. Donati, advertising manager of Aerovox Corp., will continue in that position and act as assistant to Tanner in handling advertising of all divisions and subsidiaries. Tanner brings to Aerovox 30 years of advertising agency experience. At one time he headed his own advertising agency in Buffalo, New York.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

O. D. Metz has been named manager of motor sales for Emerson Electric Mfg. Co., St. Louis, to succeed William R. Fraser, who retired July 1 under the company's pension plan. Metz has been with Emerson since 1929 as sales representative, assistant manager of motor sales, manager of the Detroit district, and manager of the eastern (New York City) district. **W. H. Thias**, with Emerson since 1935, becomes assistant manager of motor sales; **Howard Sample**, former assistant manager of merchandise sales, has been

named manager of the eastern district with headquarters in New York City; and **R. G. Bardon**, formerly sales representative and chief merchandise sales correspondent, has been appointed assistant manager of merchandise sales.

Research Products Corp., Madison, Wis., manufacturer of air filters for



heating and air conditioning, has announced the appointment of **A. C. "Bernie" Bierman** as sales supervisor for the state of Michigan, excluding the Upper Peninsula. Bierman

has been associated with petroleum products sales prior to his present appointment. He will work with manufacturers, wholesalers, dealers, and consumers in his new territory.

Appointment of **Robert B. Puckett**, Livonia, Mich., as a special sales representative on the factory staff of Servel, Inc., manufacturers of refrigerators, water heaters and all-year air conditioning equipment has been announced. For the past two years Puckett has been a dealer representative for Servel in the Detroit area. In his present job he will assist newly appointed Servel distributors throughout the country in setting up appliance sales organizations.

Manning, Maxwell & Moore, Inc., has appointed **Morris S. Palmer** and **Raymond F. Attner** to new sales positions in the company. Palmer becomes manager of field sales and Attner, succeeding Palmer, is now Hancock valves product manager. Previously a salesman in several territories and district manager in Chicago, Palmer joined the company in 1922. Attner, also with 30 years of service with the company, was previously distributor manager of valves. Palmer will be located in the Stratford, Conn., plant while Attner's headquarters will be in the Watertown, Mass., plant.

New Income-Booster...

**...The Viking ALL-PURPOSE
Self-Contained DISPLAY CASE**

NOW... a complete self-service department in just one refrigerated case! Your customers can use the new Viking All-Purpose Case to display any combination of these products at the same time: vegetables, fruits, dairy products, delicatessen items, bottled goods, smoked meats. Viking Dew Mist Control allows positive moisture control.

Porcelain front and top, gleaming stainless steel trim. 8' and 10' lengths. *Self-contained* . . . for easier, more economical installation . . . convenient moving to new locations in the store. Offer your customers the profit-making case they want . . . the *all-purpose* Viking . . . and make more profits yourself!

**Mail Coupon
TODAY**

SINCE 1904
QUALITY REFRIGERATION

VIKING REFRIGERATORS, INC.
7500 Wilson Avenue
Kansas City, Missouri

☐ Send me more information about Viking's new All-Purpose Case.

☐ Tell me about the availability of Viking franchises in my area.

Name

Firm

Address

City State

VIKING REFRIGERATORS, INC.
7500 Wilson Ave., Kansas City 3, Mo.

Circle No. 58 on Reader Service Card for more information

POINTING TO PROFITS!...

Continued from page 35

should be a relatively simple matter to prove to the prospect that adequate kitchen exhaust facilities will pay for themselves in a relatively short time. With operating costs going up and volume holding even or perhaps falling off, commercial kitchen operators will listen attentively to any proposition which will help them reduce their costs.

So far this discussion has centered entirely around what to do in order to make the sale. But it's equally important to do a satisfactory job of making the installation, if you want this sale to perform the function of building future business.

How do you select the correct fan size for the job? The Propellor Fan

grease producing equipment as practical, so that the condensate can be exhausted directly to the outside with a minimum of opportunity to collect on kitchen fixtures.

Automatic or manually operated shutters are recommended so that when the fan is not in use rain or insects cannot come in.

In some kitchens, night cooling is practiced when the kitchen is not operating. The fan is left on at night to cool not only the kitchen but also the dining room. If an installation of this type is desired, simply figure the

cubic footage of the entire space to be cooled, rather than just the kitchen.

For many contractors who wish to handle kitchen ventilating equipment, it may prove advantageous to tie in with a good sheet metal contractor. Under such an arrangement, the contractor usually just engineers the job and sells the fans, subletting the balance of the installation to the sheet metal firm. Such cooperating sheet metal men also can serve as effective "bird dogs" for lining up more prospects for kitchen ventilating equipment.

EYE CATCHER(S)



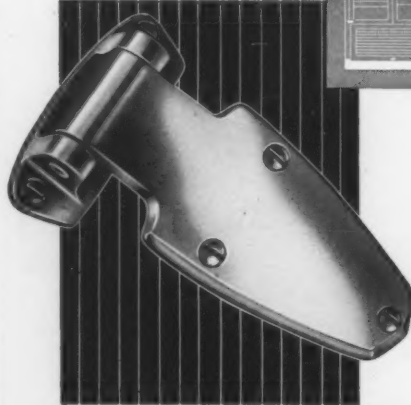
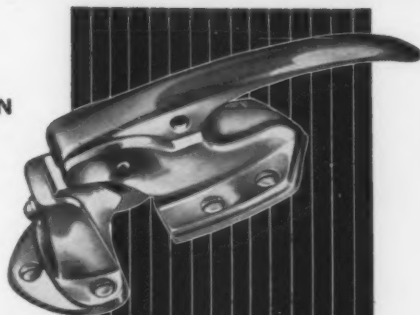
EYE CATCHER is this new demonstrator unit for dealer use—a Kelvinator dehumidifier with transparent plastic top and sides. Parts inside are painted in four colors to help the salesman explain how the dehumidifier works to remove unwanted moisture from room air. Standard metal cover is available to convert the demonstrator into a conventional unit for sale when it's no longer needed for floor display.

Manufacturers' Association, in its "Industrial Ventilation Guide," recommends a complete air change every 3 to 5 minutes for cafeterias and every 1 to 5 minutes for kitchens. Thus, to determine the fan capacity required, simply calculate the cubical contents of the room and divide by the rate of air change. The result will be the cubic foot per minute rating of the fan required to handle the job.

Locate the fan or fans as indicated in the installation sketches to provide fresh air sweeping over as large an area as possible.

Locate the fans as close to the

COMMERCIAL
REFRIGERATION
HARDWARE
FOR NEW
EQUIPMENT
OR
REPLACEMENT



Locks, Strikes
and Hinges
that contribute
to Quality
in the
World's Finest
Refrigerators

Grand Rapids Brass Company

GRAND RAPIDS, MICHIGAN
DIVISION OF CRAMPTON MANUFACTURING COMPANY

Circle No. 59 on Reader Service Card for more information

PARTNERSHIPS . . .

Continued from page 37

ly to the fact that during the first years in business they saw eye to eye on modest personal withdrawals. Their wives were equally determined on that score.

Each partner took out of the business less than was paid the employees. The balance of profits was turned back into equipment and service trucks, extensive advertising and

other items. This policy paid off.

Taking on a partner solely because a business lacks sufficient capital can make such new capital extremely expensive. Yet, many partnerships are formed for no more compelling reason. Here, the fact to keep in mind is that a partner as well as capital is being acquired. There is an additional owner looking to the business for a living.

It is common knowledge that each partner is liable for the entire partnership. Yet, it is doubtful if most partners give this fact the attention it

deserves at the time of signing partnership papers. In fact, about the time signatures are being affixed, partners are often as tarry-eyed as young lovers plighting their troth.

Each partner is legally the agent of the other partner. In the conduct of the business the action of one is legally binding on the other.

While partners may limit between themselves the individual liability of each, this is not binding on creditors and others. Thus, in event of failure, the enforcing of collections by creditors may fall more heavily on one partner than another.

If one partner has assets outside the partnership and the other does not, creditors will bear down on the partner with non-partnership assets, if necessary, to satisfy claims. Or, one partner may conceal assets that he has, while the other partner's assets are exposed to attachment.

In the event one partner goes into bankruptcy in another venture, such bankruptcy dissolves the partnership. The trustee of the bankrupt partner takes control of the bankrupt partner's interest in the partnership and the partnership is liquidated to satisfy the claims against the bankrupt partner out of the latter's share in the partnership. *A highly profitable partnership business thus can be sacrificed to pay for the errors of judgment committed by one of the partners outside of the partnership itself.*

A partnership also is dissolved by the death of a partner. The remaining partner or partners must pay the estate of the deceased partner for the deceased partner's interest in the business, including good will. Thus, the death of a partner can put a strain on a partnership business and may even force the liquidation of the business to satisfy the claims of the deceased partner's estate.

**"some combinations
can't be beat!"**

Tenney "DRUM" COOLING UNIT



Tenney "Drum" Cooling Unit—for maximum efficiency in minimum space. Designed originally for walk-in coolers, this unit is ideal for use in any refrigerated space where an even distribution of cooled air throughout the entire area is essential. And—it's easy to install, easy to service.

It takes a combination—a well integrated Tenney team of top engineering talent and practical application of long experience—to produce the most efficient and durable refrigeration equipment. Take this Tenney "Drum" Cooling Unit . . . years of research and experience in the refrigeration field have gone into its design and manufacture. This experience, combined with the most modern engineering methods, is your guarantee of satisfaction.



ENGINEERING, INCORPORATED

Dept. F 26 Avenue B, Newark 5, New Jersey

Engineers and Manufacturers of Refrigeration, and Automatic Environmental Test Equipment

Circle No. 60 on Reader Service Card for more information

**SERVICEMEN
CONTRACTORS,
JOBBER,
ENGINEERS**

Tenney brings you the advantages of advanced engineering and manufacturing facilities to handle any and every refrigeration problem, for the Tenney line is built to suit your needs. Outline your problem, and let us prove that a Tenney unit will solve it.

Ⓜ 0478

YORK COOLS 6 CARRIERS

York Corp. has announced that it has received contracts to furnish additional air conditioning equipment for six U. S. Navy aircraft carriers of the Essex class, the Intrepid, Hornet, Ticonderoga, Hancock, Lexington and Randolph. The value of the contracts was not disclosed. The latest types of air conditioning equipment will be used on the giant carriers, all of which played a vital role in winning World War II.

CONTRACTORS

NEWS • ACTIVITIES • PLANS

Manufacturers Say Competition Forces Extended Warranties

HOW some manufacturers of commercial refrigeration and air conditioning equipment feel about "the warranty problem" is reported in a release sent out recently from the headquarters office of the Refrigeration and Air Conditioning Contractors Association.

As reported previously, RACCA has gone on record as favoring a warranty of no longer than one year on commercial equipment, and has urged manufacturers to re-examine their present warranty policies with a view to scaling down the long-term warranties that some companies now have in effect.

Reporting on replies received in response to a letter outlining RACCA's stand, sent to leading manufacturers by George Howe, chairman of the association's trade relations committee, RACCA said that one manufacturer stated:

"We have not yet announced such a warranty plan and we still have hopes that we will not have to, although pressure is being brought to bear on us by our dealer-contractors who are beginning to feel the effects from competition. It is nice to know that your Association is opposed to extended warranties and we hope that your members will continue to oppose this trend."

Another manufacturer stated:

"The desire to capture a slightly larger share of the market leads to many plans whereby the consumer is offered additional protection such as the extended warranty and as a result the entire industry accept additional responsibilities without the benefit of increasing their overall market."

A large air conditioning corporation replied:

"We appreciate very much your

comments and in many ways you have expressed our own viewpoint regarding the long-term warranty situation that has been developing over the past few years. We appreciate very much your viewpoints and want to assure you it is our desire to co-operate in every way possible with the Contractors Association in this respect."

Yates-American Machine Co., Beloit, Wis., manufacturers of Lipman equipment, sent the following letter:

"We agree with you wholeheartedly that these warranties are entirely inconsistent with the long term interests of the refrigeration industry, and it has been our policy to offer nothing other than a warranty for defective material and workmanship for a

period of one year. We would naturally be interested in shortening this term if general conditions in the industry would permit.

"These long term warranties are being used by the larger producers in the industry as a sales inducement, and this puts the smaller manufacturer at a decided disadvantage since he generally has no choice except to adopt the same policy. We are much interested to know what steps should be taken to prevent the further growth of this long term warranty practice . . ."

The Trane Company, LaCrosse, Wis., sent the following letter:

"The Trane Company, too, is concerned regarding reports that we have received that some refrigeration equipment manufacturers are announcing five-year warranty plans to the field and in their advertising. The Trane Company definitely is not in sympathy with such sales methods.

"The Trane Company's standard warranty gives adequate protection, both to the contractor and the owner, and we see no reason why we should make any change, at least toward extending the time limits."

Air Control, Inc., replied as follows:

"We have given consideration to the formulation of a five-year warranty plan, but do not hesitate to say that we are extremely averse to the

How Air Conditioning Dollars Are Spent



GETTING A FULL SHARE of the customer's dollar spent for "packaged" air conditioning was the keynote of a promotion meeting held recently by Temp-Matic Wholesalers, Remington and Westinghouse distributor in Detroit, for its dealer organization. T. H. Mobley, general manager of the distributor firm, is shown here with an illustrated cut-out representing the customer's air conditioning dollar, which is divided between sales of window and console room conditioning units between 1/3 and 1 1/2 hp and unitary equipment ranging from 2 to 10 hp in capacity. The Temp-Matic meetings stress the importance of dealers carrying a complete range of equipment, to give each customer what he needs. Mobley reports that meetings of this type, in which an alarm clock is used to shut off "long winded" speakers, have proved most successful in promoting sales of cooling equipment through dealers.

Now
**YOU CAN
SKIP
A DAY**



WITH THE *New*
INTER-MATIC®
"SKIPPER"
TIME SWITCH

For automatic control of air conditioning systems and commercial refrigeration defrosting, where it is desired to skip operation of the time switch on Saturdays, Sundays, Holidays, or other selected days. Skips one or more days of the week.

- Simple to set and operate
- Complete line available
- LOW LIST PRICE

SEND TODAY FOR FREE CATALOG
AND PRICE SHEET #82M.

INTERNATIONAL REGISTER CO.
2624 W. Washington Blvd.
Chicago 12, Ill.

INTER-MATIC
TIME SWITCH

Circle No. 61 on Reader Service Card

idea, which could be forced on us only by competition. The points brought out in your letter are excellent ones and it is our opinion that your association is justified in bringing pressure to bear on all manufacturers in the air conditioning industry to limit themselves to the one-year warranty."

A spokesman for another of the larger air conditioning companies, who would not allow the use of his name, and which company is one of the originators of the five-year warranty, stated that although they had tremendous publicity only 10% of the distributor-dealers took advantage of the five-year warranty. He stated that although he did not know why this would be, he agreed that maybe the reasons that RACCA has given might have been the cause.

**ACRMA SETS POLICY
OPPOSING LICENSING**

Contractor, journeyman mechanic, apprentice, and operator licensing is opposed by the manufacturers of commercial and industrial refrigerating and air conditioning equipment, as a result of discussion at the annual

meeting of the Air Conditioning and Refrigerating Machinery Association held at Hot Springs, Va., recently.

Review of the efforts of national and regional organizations of refrigeration contractors, servicemen, and others to have state and municipal legislation enacted requiring licensing of contractors, journeyman mechanics and apprentices, and equipment operators, resulted in the formal adoption of the following ACRMA policy statement:

"ACRMA believes that licensing of air conditioning and refrigeration contractors, journeyman mechanics and apprentices, and equipment operators is contrary to the best interests of the public and of the air conditioning and refrigeration industry.

"Licensing requirements provide a ready and convenient channel for abuses such as the limiting of competition by excessive fees, through unreasonable requirements, and through administration by examining boards and enforcement agencies which may be less than impartial. Excessive fees, unreasonable examination requirements, and similar features tend to limit free and competitive enterprise and create barriers to interstate and intercommunity commerce.

"Licensing charges must be reflected in higher over-all costs of air conditioning and refrigeration installations to the buyer, without any commensurate return to the public in the form of quality of equipment, proper installation, and safe operation of air conditioning and refrigeration installation."

**CMP REG. 5 AMENDED
TO EASE OPERATIONS**

The National Production Authority recently amended CMP Regulation 5 to simplify operations under this order which governs the procurement of maintenance, repair and operating supplies under the Controlled Materials Plan.

The amendment accomplishes the following:

1. Removes the \$1000 limitation on the cost or quantity of materials used for a single installation project, but retains the quarterly restrictions on expenditures for installations. Under this provision, only the actual cost of materials used to install equip-

**CAN YOU
CHARGE
A REFRIGERATION UNIT
WITHOUT
USING GAUGES?**

the leading rebuilders in the country have found this way the most efficient, economical way of charging a system by using

**"BULLET" ENGINEERED
CAPILLARY TUBES**

works right every time

open • sealed—domestic • commercial

- strainers
- dehydrators
- connecting rods
- terminals
- test meters
- chemicals



WRITE FOR
NEW CATALOGUE

(See your
local jobber)

261 EAST 161st ST.
NEW YORK 51, N.Y.

Circle No. 62 on Reader Service Card

ment in a plant need be charged against the installation quota. The value of the piece of equipment installed is not controlling.

2. Changes the definition of installation to include any setting up or relocation of machinery, fixtures or equipment which does not occur in conjunction with a construction project covered by CMP Regulation 6, and which is carried by a person as capital according to his established practice.

3. Provides that where an installation is made in a building which has been completed less than a year and where the installation is part of a construction project, it may not be considered as an installation within the meaning of the new definition.

4. Revises the definition of "minor capital addition" to make it clear that all items purchased as part of a single project or plan constitute one addition.

5. Requires persons who have historically treated installation or relocation as an operating supply to continue to do so.

COURT VOIDS TWO L. A. CODE SECTIONS

Two sections of the Los Angeles municipal code—one requiring a \$100 "permit service fee" for electrical installations and the other requiring a \$1000 surety bond before a permit will be issued—were recently declared void by the Los Angeles District Court of Appeals.

Judge Paul Vallee held that these two sections were in conflict with the state contractors' license law.

He stated that while the city was entitled to require an individual permit fee, it could not require a contractor to pay a lump sum to order to do contracting work.

The court said: "To be lawful, a permit service fee, covering miscellaneous inspections, re inspections and other services, should be imposed for the purpose of defraying the expenses incidental to the services in fact rendered and should be approximately commensurate with the expenses.

Section 93.64 fixed the fee at \$100 per calendar year or any fraction thereof. The fee is the same for one month or one day as for one year, although the work supposedly done may be only 1/12 or 1/365 as much as for a calendar year.

"Patently, the permit service fee is not to defray expenses of miscellaneous inspections, or re inspections, or other services . . .

"Notwithstanding the state law which authorizes a contractor holding a state license to contract anywhere in the state, this ordinance limits his right to contract in Los Angeles unless he registers with the electrical division of the city, pays the city \$100, furnishes the bond, and obtains a permit from the city . . .

"The general contractors' license law is complete in itself. It is not simply prohibitory. It is also permissive. It authorizes the contractors licensed by the board to engage in their occupations anywhere in the state.

"It clearly appears that the general law and the attached provisions of the electrical code—the one permitting, the other prohibiting the same act except on more onerous terms—are in direct conflict with each other."

The case was brought to the attention of the court when R. W. Agnew, a state licensed electrical contractor, sued the city alleging that the city

Circle No. 64 on Reader Service Card

STANDARD Adjustable CAPILLARY VALVES



- One valve for high or low temperatures.
- One valve for all refrigerants.
- Eliminate usual capillary noises.
- Easier to install.
- Adjustable.
- Cleanable.

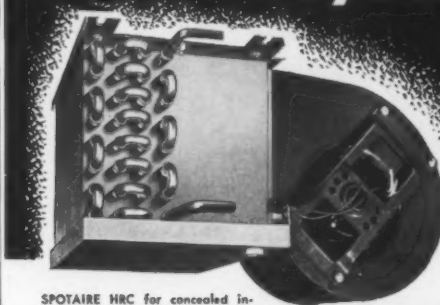
U. S. Patents
2,535,019; 2-
567,153. Can-
adian patent
357,841. Other
U. S. and For-
eign Patents
Pending.

Order from your
Wholesaler. Ask
Dept. A for Form
C-52.

Model C-23—1/20 to 1/3 H.P.
Model AC-20—1/3 to 1 H.P.
(Dealer net (1-11) 93.25)

STANDARD REFRIGERATION CO.
332 S. HOYNE AVE. - CHICAGO 12

Quiet Beyond Belief!



SPOTAIRE

Series
HRC

ROOM UNIT
AIR CONDITIONER

SPOTAIRE HRC for concealed installations. Dimensions for 3R, 4R, and 6R models are the same.

SPOTAIRE HRC UNITS POSSESS SILENCE OF CENTRAL DUCT SYSTEM

HRC UNITS ARE DESIGNED FOR INSTALLATIONS WHERE QUIETNESS IS ESSENTIAL. ACCOMPLISHED BY USING A LARGE FAN REVOLVING AT LOW SPEED. (EXCLUSIVE d-h FEATURE) AND MAY BE SPECIFIED FOR HOSPITALS, MOTELS, HOTELS, APARTMENTS, RESIDENCES, AND OFFICES.

HEATS, COOLS, FILTERS, VENTILATES AND RECIRCULATES AIR. NO DUCT WORK REQUIRED. LOW INITIAL COST. SIMPLE INSTALLATION. THE FINEST ROOM UNIT SYSTEM MADE.

Write for literature

drayer-hanson

Box 2215 Terminal Annex
Los Angeles 54, California

FOR NEW OR OLD
CONSTRUCTION

AVAILABLE FOR HOT OR COLD
WATER OR DIRECT EXPANSION
REFRIGERANT

Circle No. 66 on Reader Service Card for more information

Circle No. 63 on Reader Service Card for more information

Lipman

"CONVERTIBLE" AIR CONDITIONER

HOLDS DOWN INVENTORY, UPS SALES POTENTIAL



INSTALL THIS TOP FOR
Home INSTALLATIONS

This duct top permits easy attachment of the basic unit to the forced warm air heating ducts.



INSTALL THIS PLENUM TOP FOR
Commercial INSTALLATIONS

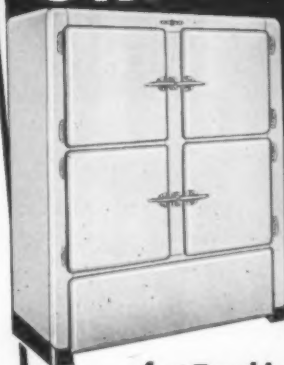
This plenum top makes a commercial unit that looks well, fits well, and operates efficiently in any surroundings. Low height of complete cabinet (only 60") makes it extremely popular.

Stock the basic unit, plus the "home" top and the "commercial" plenum top and you have two air conditioners in stock — sell your first prospect — double sales potential!



Yates-American
BELLEVILLE, WISCONSIN

GRAD-U-MATIC AIR CONDITIONING



"LIFETIME" PORCELAIN OR STAINLESS STEEL EXTERIORS

Choose

"P-H" REFRIGERATORS
for Trouble-FREE Service...Year after Year!

Accepted as the leaders in their field for over 50 years, P-H Cases and Cabinets give you the most efficient preservation of food through the exclusive Grad-U-Matic Air Conditioning system . . . longer life through such important features as Electrically Welded Steel Frames, finest Fiber Glass Insulation, Triple Thermopane Sealed Glass Windows, Welded Interior Porcelain Linings and "Lifetime" Porcelain or Stainless Steel Exteriors . . . plus an unmatched record of trouble-free performance, year after year. Every P-H Refrigerator is factory tested for temperature and efficiency including highly sensitive electronic leak detector tests. Illustrated above is the Model P-35-4 Self Contained Reach-In. Also available in 50 other models with capacities from 20 to 90 cu. ft., remote or self contained.

SEE YOUR NEAREST P-H DEALER FOR REACH-IN CABINETS . . . DAIRY-DELICATESSEN CASES . . . BEVERAGE COOLERS . . . PASS-THRU CABINETS . . . DOUGH RETARDERS . . . FLORIST CABINETS AND WALK-IN COOLERS.

PUFFER-HUBBARD MFG. CO.

GRAND HAVEN, MICHIGAN



Listed Under Re-Examination Service of Underwriter's Laboratories, Inc.

Circle No. 65 on Reader Service Card for more information

threatened to prosecute him criminally because he failed to comply with the two sections. He asked that these sections be declared void.

This decision is still subject to rehearing or appeal to the Supreme Court of California.

The Refrigeration and Air Conditioning Contractors Association of Southern California, Inc., in bringing this decision to the attention of its members, pointed out that other cities about the state also require such fees and bonds. It offered to forward any protest from a contractor to the governing body of any such city.

Henry B. Ely, executive secretary of the contractors' association, asserted that "it is about time that contractors freed themselves from the shackles imposed by insular cities and counties."

HARRY LEWIS HEADS MINERAL WOOL INSTITUTE

Harry E. Lewis has been appointed executive director of the Industrial Mineral Wool Institute. The appointment was announced by Glen J. Christner, president of the association of 18 manufacturers of mineral wool insulation in the United States and



Canada. Lewis' most recent position was that of general manager of the industrial sales department, Perlite Div., Great Lakes Carbon Corp. His new headquarters are in the Institute offices in New York City.

CARRIER DISTRIBUTOR NAMED IN NEBRASKA

The Air Conditioning Equipment Co., Omaha, Neb., has been appointed distributor of Carrier equipment for the territory of Nebraska and western Iowa. The company is a long-time distributor of air conditioning and heating equipment. J. W. Hennen, president of Air Conditioning Equipment Co., met recently with G. T. O'Maley of Carrier's Kansas City district to plan channels of distribution and selection of dealers for the newly franchised area.

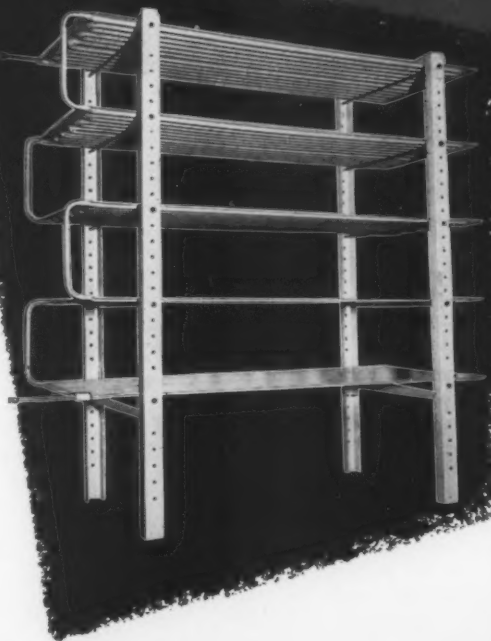
KOLD-HOLD

*plate stands
give you faster
pull-down*

...at lower cost

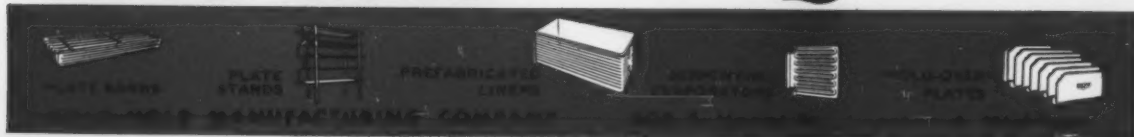
You can freeze your products in a hurry when you use Kold-Hold Plates Stands. The smooth shelf surface provides direct, maximum contact with a faster pull-down. The refrigerant is directly beneath this smooth top, flowing in the channels formed by joining an embossed metal sheet to the flat metal sheet used for the shelf. This Kold-Hold "Serpentine" design provides unrestricted refrigerant flow, greater-pull-down capacity and the equivalent of 100% prime surface. Thus Plate Stands provide faster pull-down at a lower operating cost. As the shelves are perfectly flat on top, all types of products are easily and quickly placed on the stands. There are no crevices through which merchandise may fall, no uneven coils that make stacking difficult.

Kold-Hold Plates Stands are particularly suitable for ice cream manufacturing plants, sharp freeze lockers and low temperature storage where a fast temperature pull-down is most important. For a complete description of Kold-Hold Plate Stands and other "Serpentine" Lowsides, write for your copy of the descriptive new Kold-Hold Catalog today.



KOLD-HOLD

protects every step of the way



Circle No. 67 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

THE HEATING OF AIR CONDITIONING SIDE

By Wm. Henry Knowlton

Industrial Overhead Heating

LAST month we discussed the making of heat loss calculations, and their importance in the selection of equipment to meet the existing load. Before going into the important subject of duct design, we would like to cover a subject of particular interest to the air conditioning man—industrial overhead heating.

As these systems require no ductwork, such a system may be designed and installed without giving consideration to this subject. In our approach to a typical design problem, it also presents an opportunity to again review the methods we have discussed for calculating heat losses.

As a typical example let's take the case of an industrial plant measuring 100 ft. wide by 300 ft. long. There are thousands of such plants in the country, and more are springing up every year. This building is 22 feet high and the walls have a glass area measuring 14 ft. high, all the way around.

While the building has offices at the front, requiring ductwork for heating, we are concerned here with the large open shop area, which has no partitions. The heat loss calculations on this structure work out as shown in Table 1, assuming an 80 F temperature difference (minus 10 to 70) which is included in the factors used.

While the above estimate of heat loss took a few minutes of time, it is still far from exact. No consideration has been given to door openings, and the size of factory window sash was assumed, rather than measured with a tape.

At the same time this estimate is considerably more accurate than the one made by the heating and air conditioning contractor on this job, who, by rule of thumb, arrived at an outside estimate of 5,000,000 Btu.

TABLE 1

Built-Up Roof 300 ft. x 100 ft. equals 30,000 x 42 equals	1,260,000 Btu
Concrete Floor 300 ft. x 100 ft. equals 30,000 x 4 equals	120,000 Btu
E. Wall Glass 300 ft. x 14 ft. equals 4,200 x 90 equals	378,000 Btu
East Wall-Block 300 ft. x 8 ft. equals 2,400 x 48 equals	115,200 Btu
W. Wall Glass (exactly the same as East Wall)	378,000 Btu
W. Wall Block (exactly the same as East Wall)	115,200 Btu
N. Wall Glass 100 ft. x 14 ft. equals 1,400 x 90 equals	126,000 Btu
N. Wall Block 100 ft. x 8 ft. equals 800 x 48 equals	38,400 Btu
S. Wall Glass (exactly the same as North Wall)	126,000 Btu
S. Wall Block (exactly the same as North Wall)	38,400 Btu
WINDOW CRACKAGE: (Assume 60 factory sash 14 ft. high) 840 (lineal feet) x 14 equals 11,760 feet of crack x 60 (factor) equals	705,600 Btu
TOTAL	3,400,800 Btu

This fact is very important to our story, as less heating capacity was installed than was required by either the rule-of-thumb or "accurate" heat loss calculation shown above.

In this instance the overhead heating units were installed at a considerable distance below the roof trusses, and for this reason the heating contractor assumed that the upper portion of the building would not be heated at all. Right or wrong (experience through the past winter proved

that he was right), he selected five self-contained oil-fired winter air conditioning units each having a capacity of 450,000 Btu, or a total of 2,250,000.

An additional unit having a capacity of 150,000 was selected to heat the offices, making a grand total of 2,400,000 on the building—or slightly less than half the "rule of thumb" estimate and about two-thirds of the actual estimate we have made here.

Because heat from the five overhead heating units is directed downward to the working area, the people in the shop were kept comfortable even during very severe weather. Construction of the system also provided a protecting blanket of warm air between the roof, where the greatest heat loss occurs, and the working space below.

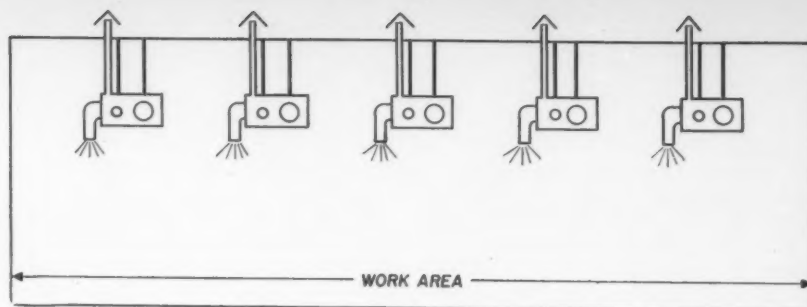
All this is being pointed out to illustrate that although heating in a small residence is an *exact* science, heating of small commercial buildings often entails a considerable amount of judgment, or plain common sense, in knowing how much equipment to install.

In the case in point, the building is located between two other factories, and well protected from strong winds. Quite possibly, if it were exposed on all sides, on top of a hill, it would require at least 3,500,000 Btu of capacity to heat the structure, and perhaps more.

Good heating practice often depends upon experience and good sense, as well as a basic knowledge of engineering. The same is true of air conditioning.

FIGURE 1

Side elevation of a typical small factory heating installation, showing how suspended unit heaters leave floor space unobstructed for working area. (Drawing not to scale).



There are any number of ways that this factory could be heated in a satisfactory manner, including radiation along the walls, radiant heat in the floor, overhead unit heaters powered by a central steam system, direct fired gas unit heaters, and so on. One limiting factor in this situation was that gas was not available for fuel.

Any of the above "central" systems would require the installation of a large boiler and the construction of an adequate chimney. The boiler room would take up a considerable amount of space which is normally needed for manufacturing or storage of finished products. By having all five self-contained heating systems suspended from the roof (see Figure 1) they are up out of the way and there is no need to sacrifice valuable floor space.

Each heating unit consists of a filter, centrifugal fan, oil burner mounted in a heat exchanger, and air outlets constructed to distribute the heat over the factory area. Each system may be operated manually, or by its own automatic controls. Distribution of heated air would be vastly improved by the use of Aneomstats or similar ceiling air diffusers. In this instance, however, cost was a prime consideration and grilles were installed on the outlets of each conditioning unit.

Roof Vents Provide Draft

Each unit is vented to the roof by its own stack, which is protected by a mushroom type outlet designed for this purpose. Currently at least one manufacturer is building overhead heating units of this type equipped with induced draft fans, so a constant draft can be maintained regardless of outside wind and weather conditions. Such a device would be highly desir-

able to improve efficiency in an installation of this type.

Because the units are mounted overhead, they are easily accessible for service. Operating efficiency is high and "pick up" to meet changing weather conditions is fast, because the fans do not have to operate against duct resistance. On demand of the thermostat, heating becomes almost instantaneous.

Perhaps the greatest advantage of this type of system, however, is its flexibility to meet changing weather conditions. When the weather is mild, only one of the five conditioners operates. As the weather becomes colder, another unit comes on, and then another and another, until all five units are operating in coldest winter weather.

Operation Is Flexible

This is a decided advantage to the owner who pays the oil bill, as the system only runs at full capacity for short periods. Throughout most of the heating season it simply "floats" against the existing load demand, responding rapidly to changes in weather conditions.

Installation of overhead heating systems using warm air permit the air conditioning man to assume important industrial contracts without the "gamble" that is always inherent in any job having a high percentage of labor. Systems of this type utilize the customer's dollar for efficient equipment, and the labor of installation is relatively small.

The units may be taken down and moved to another plant without difficulty, and this is particularly important to the operator of an industrial plant who has a short lease and who contemplates building his own plant at a later date.

Let's recapitulate the several advantages of overhead heating in industrial plants, and review their importance to the prospective owner:

1. No floor space required
2. No chimney
3. No extensive duct or piping systems
4. Self-contained units accessible for service
5. Flexibility of operation
6. Instantaneous response to changing conditions
7. No heat wasted on space under roof
8. Complete comfort for employees
9. Automatic control if desired
10. Economy of operation under all weather conditions.

This is indeed an imposing list, yet the reader should not assume this is the only way to do a good heating job in an industrial building. It is, however, a method that is finding increasing favor with heating and air conditioning men in several parts of the country, who now advertise themselves as "overhead heating specialists".

In the next article we will discuss the design of a duct system which serves the offices in an industrial building of this type.

JOBBER'S NEW CATALOG

M. Blazer & Son, Passaic, N. J., refrigeration parts wholesaler, has recently issued the spring and summer edition of its 1952 estimating catalog of heating, ventilating, refrigeration and air conditioning equipment.

"HOT AIR" . . .

Continued from page 39

keep that average three-bedroom house warm for nearly two winters of the briskest cold weather. When they become really active, they'll be turning out half again as much.

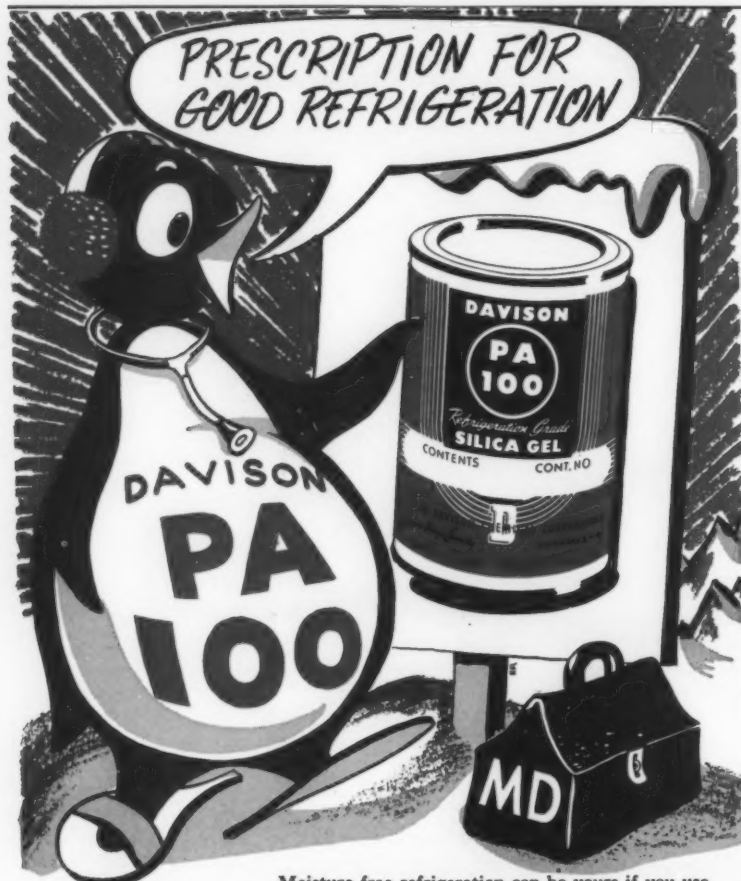
From a humidity standpoint, they'll be evaporating some 1,800 quarts of perspiration into the air every hour under normally active conditions. This might nearly double in moments of intense activity.

Air from the outside must be introduced in proportion to the size of the audience—in this case more than 5,000,000 cubic feet of air every hour. On the hotter days it will be entering the system at 95 F, well above the comfort level. If it were cooled to 80 F without having its load of moisture removed at the same time, it would enter the hall at a relative humidity of 65%, or well above the humidity comfort level of 50%. This would not even take into account the tremendous load of humidity put into the air by the people themselves.

To cool this outside air 15 degrees to 80 F and establish the humidity at 50% in 24 hours of such maximum conditions, some 60,000,000 Btu's must be removed by the system. This is enough to heat our three-bedroom house for another four months of winter weather.

With all these major problems and the many smaller ones analyzed and added together, the system was designed and installed.

The centrifugal machines were made-to-order solution for the cooling problem at the Amphitheatre. A relatively small equipment room 23 feet by 45 feet in size was constructed at one corner of the building. It is estimated that other types of refrigerating equipment would have required a machine room more than



Moisture free refrigeration can be yours if you use PA-100. Tests prove PA-100 can dry refrigerants to moisture levels that cannot be reached by other refrigerant drying agents. And PA-100 cannot cause corrosion . . . actually helps prevent it by removing corrosive compounds from the system.

There need be no worry about caking, dusting, deliquescing or channeling refrigerants with PA-100.

Prescribe PA-100 for your moisture problems. Available from your jobber in cartridge or bulk can.

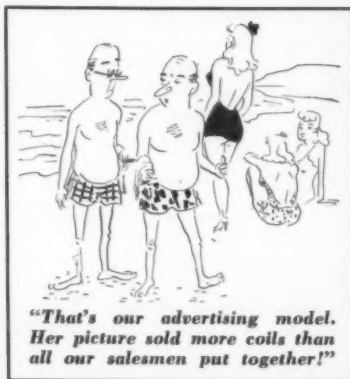
Progress through Chemistry

THE DAVISON CHEMICAL CORPORATION

Baltimore 3, Maryland

PRODUCERS OF: CATALYSTS, INORGANIC ACIDS, SUPERPHOSPHATES, PHOSPHATE ROCK, SILICA GELS, SILICOFLOURIDES AND FERTILIZERS

Circle No. 68 on Reader Service Card for more information



twice this size. Since the centrifugal is compact in proportion to its capacity, it was possible to install in this room the two compressor units, along with a battery of electrical controls.

The centrifugals are driven by motors totalling 1,000 horsepower. But machines of this type also have built-in capacity control, giving the system the required flexibility as well as high maximum cooling capacity. The units automatically cut down their cooling output to match the amount needed, and cut down on the amount of power they use at the same time.

From this cooling plant, the centrifugals will send some 1,065 gallons a minute of chilled water to eight central air conditioning stations tucked away in the corners of the big arena. Here the chilled water will pass through nearly five miles of finned tubing in the batteries of cooling coils, presenting a cool surface of altogether some 50,000 square feet or more than an acre. More than 150

miles of aluminum finning are wrapped in a tight spiral around the chilled water tubes to convey the heat from the air to tube surface, and to serve as a cool condensing medium to collect the moisture from the air.

Sixteen big fans ranging in size from 1½ to 5 feet in diameter will pull more than a quarter of a million cubic feet of air a minute through the air conditioning system. The air will enter through big banks of filters consisting of a total of some 260 filters 2 inches thick and covering a total air inlet area of more than 700 sq. ft.

It is estimated that these filters will collect so much dirt that they will need to be changed about once a month. No one has been able to estimate the total amount of dirt collected during this period, but it will run into hundreds of pounds, much of which would otherwise collect on the delegates.

After being scrubbed clean in the filters, the air will pass through the cooling coils where it will be cooled and dehumidified to the necessary temperature and humidity levels. Then it will enter the fans and be sent on its way to the arena through thousands of feet of ductwork ranging in size from a big 8 by 5 feet at the fan outlet, to as small as a foot square.

The main duct system runs along both sides of the arena and up alongside each ceiling girder. Most of the conditioned air will be released from the ceiling level some 80 feet above the delegates. It will emerge through grilles specially designed for this system to avoid drafts due to the large quantities of air used. It will then float gently downward, gradually absorbing heat from the auditorium, until it reaches the floor at the desired 15 degrees cooler than outside temperature and 50 per cent relative humidity—even during the hottest weather and hottest activity.

HARTZELL JOINS STAFF OF LOF FIBER GLASS

G. O. Hartzell, for 27 years in insulation business and well known to insulation contractors and engineers throughout the country, has joined the Fiber Glass Division of Libbey-Owens-Ford Glass Co. for general sales duties in the central region. His territory will include Ohio, Michigan, Kentucky and parts of New York, Pennsylvania, West Virginia and Tennessee.

Genuine Joe says:



**You know
you're RIGHT
when you
replace
with**



Genuine Wagner Motor Starting Capacitors

You can be *right* every time... if you always replace with genuine Wagner capacitors. Just check the capacitor number, stamped on the Wagner Motor nameplate, and take all the guesswork out of replacements. You know that you'll get the exact same size—mounting brackets—terminals—and high quality that Wagner originally specified for the motor.

Do you have Wagner's Fast-Moving Parts Bulletin MU-122 and Motor Parts Catalog MU-40? If not, write for your copies today. Every repair shop can use these helps.



MS52-4

WAGNER ELECTRIC CORPORATION
6442 Plymouth Ave., St. Louis 14, Mo., U. S. A.

MOTORS • BEARINGS • STANDARD ROTORS
BRUSHES • CAPACITORS • COMMUTATORS

**650 AUTHORIZED SERVICE STATIONS
OR PARTS DISTRIBUTORS**

Circle No. 69 on Reader Service Card for more information



IT'S GOOD BUSINESS

**...to offer
your
customers
TEXACO
CAPELLA
OIL
(Waxfree)**

It's good business for you, good business for your customers. *Texaco Capella Oil (Waxfree)* makes compressors run better. So if you're a service engineer, you've got a quality product to back up your quality work. This will lead to new business for you. If you're a distributor or dealer, you share in the increased business that results.

Texaco Capella Oil (Waxfree) keeps compressors and systems clean. It won't precipitate wax in systems even down to minus 100°F. Its ultra low haze and floc temperatures are unexcelled. It's tops for purity, stability and oxidation-resistance. In addition, *Texaco Capella Oil (Waxfree)* is moisture-free and will not react with refrigerants.

Whatever the compressor or the temperature, there is one of a complete line of *Texaco Capella Oils (Waxfree)* to assure clean, efficient, economical performance. Available in refinery-sealed containers—55-gallon drums, 5-gallon, 1-gallon and 1-quart containers.

Get your share of the good business *Texaco Capella Oils (Waxfree)* provide. The Texas Company, 135 East 42nd Street, New York 17, N. Y.

TEXACO Capella Oils (Waxfree)
FOR ALL REFRIGERATING AND AIR CONDITIONING COMPRESSORS

Faithfully yours
50
for Fifty Years

Circle No. 70 on Reader Service Card for more information

AUGUST, 1952 • COMMERCIAL REFRIGERATION

THE PRACTICAL REFRIGERATION APPLICATIONS MANUAL

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: **COMMERCIAL REFRIGERATION, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.**

PROBLEM

"I HAVE been called in to service a refrigeration job using a water cooled machine and an evaporative condenser. This job runs good in cool weather but is not satisfactory in hot summer weather. The condenser unit water gets hot and machine runs all the time. I think the evaporative condenser is too small. What can I do to correct this situation?"

SOLUTION

"YOU have not given us much information on which to offer suggestions for improvement on this installation. With a situation of this kind the proper procedure would be to thoroughly analyze and check the entire installation to determine the cause of your trouble.

It is quite possible you have a borderline installation not actually having sufficient capacity to handle this job during maximum load conditions. A check up should be made to determine, first, what the maximum load requirements are during the maximum load and heat conditions. Then check the capacities of the cooling coils, the condensing unit and the evaporative condenser to determine whether they are large enough for this maximum load.

Also be sure the several components are in efficient working condition to carry the capacity load they are intended to handle.

This check up may uncover a shortage of capacity in one or several of the components under extreme load conditions. If such proves to be the cause of your trouble, the solution, of course, is to replace the

undersized units with units having the necessary capacity.

In case the cooling coils are found to be short of capacity, the addition of another cooling coil may be a solution. If you find a shortage of capacity in the condensing unit or the evaporative condenser, we would recommend that a larger unit with increased capacity be installed.

Should you find your trouble resulting from a general shortage of capacity for all three major components we would recommend that a new load survey be made to accurately determine maximum load requirements before replacing the equipment.

If you care to give us additional information regarding the conditions existing in this installation we will be happy to make further recommendations.

Reader Offers Help on Photographic Cooling

EDITOR:

I have just finished reading your problem and solution of the two water tanks used for photographic purposes. It seems that experts have missed the boat on the proper solution.

In the first place, the letter indicated that the person using the equipment would not pay for the expensive installation you recommend, as he only rents the equipment. The manufacturer would not pay for it, as he can point out that his design has proved satisfactory for two years and he does not desire to purchase thermostatic expansion valves.

I believe that the solution to the problem has caused a large amount of damage, in that if the service man shows the article to the user of the equipment he may be convinced that the equipment he is renting is of poor standard. If the serviceman shows the article to the manufac-

Continued on page 95

WATSCO PAT. PEND.

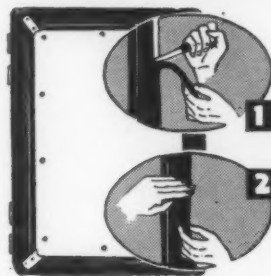
Nu-Bead

REPLACEMENT GASKET

INSTALLED in MINUTES!

**ELIMINATES DISMANTLING
of Frigidaire- Coldspot Doors**

Door seals of Refrigerators deteriorate only at the bead. Stop repairing them the old way. Now you don't have to take 3 or 4 hours to dismantle the door and replace the entire seal. Use Revolutionary NU-BEAD and get a quick, clean repair in 15 to 20 minutes that will satisfy the most exacting customer.

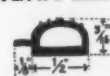


1 Simply cut away the deteriorated bead with a sharp knife. (Don't worry about any irregularities in the trimming as the lip of the NU-BEAD covers up all the defects) then moisten with carbon tetrachloride, or other solvent and place in position—That's All!

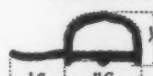
2 NU-BEAD is designed to match the original gasket, and is made of the finest grade of rubber with a special adhesive already applied at our factory.

Available for all Models

Part R-1 Black



Part R-2 Grey



**FREE
NEW CATALOG!
#17**

**Just Off
The Press . . .**

Features our complete line of parts and tools—plus new additional items.

Send For Your COPY Today!

Available At Your Jobber

Wagner Tool & Supply Corp.
★ REFRIGERATION PARTS & TOOLS ★
40-08 22nd ST., L. I. City, N. Y.

Circle No. 71 on Reader Service Card



*There's always one that's better...
and in controls it's Ranco!*

Ranco controls are *outstanding* and the reason is
apparent: dependable, accurate Ranco controls are available
for more than 4,000 replacement installations—
domestic refrigerators, milk coolers, water coolers
and commercial units of every type. They're the first choice
of expert refrigeration men everywhere.

Ranco Inc.

COLUMBUS 1, OHIO



WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

Circle No. 72 on Reader Service Card for more information

HERE'S HOW!

Edited by
Warren W. Farr

How to Dress Bench Grinders Safely

No service shop is complete without at least one bench or stand grinder, yet many a serviceman has never learned the proper—and safe—way to dress the wheels on such grinders.

Here are seven safety suggestions for this important operation:

1. Wear a face shield over your goggles for protection against heavy particles.
2. Use a dressing tool approved for the job. Never use a lathe cutting tool.

*I do it
this way...*

HERE is an idea that can save you many headaches. Quite often you may run across an orphan compressor for which you cannot buy valve reeds. In such cases you might try this procedure, as I have. Simply buy the reed that looks the most like the one you need and then use a hand grinder to make your own reed.

W. Tegner, Oakland, Calif.

3. Inspect star dressers for loose shaft and worn discs.

4. Round off the wheel edges with a hand stone before and after dressing to prevent the edges from chipping.

5. Use the work rest to support and guide the tool. Use a tool holder if one is available.

6. Apply moderate pressure slowly and evenly.

7. Always apply diamond dressers at the center or slightly below the center, never above.

WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to HERE'S HOW EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

Three Things to Check On Balking Conditioner

Have you ever been called upon to service an air conditioner that shows signs of trying to start—one in which the relay keeps clicking and/or the motor hums? If you have, chances are you found out that the trouble resulted from one of the following causes: low line voltage, defective relay, or defective starting condenser.

First thing to do in such a case is to check the line voltage. The full load line voltage at the outlet should not deviate more than 10% from no load voltage.

If this doesn't solve the problem, then check the relay for a shorted holding winding, or for poor and/or maladjusted contacts. A reliable check can be made by substituting a relay of known performance.

If neither of these treatments clears up the difficulty, then check the capacitor by substituting a good one.

Soldering Tips for Refrigeration Work

Here are four rules to follow in good soldering practice in refrigeration work:

1. Never use 50-50 solder, as carbon dioxide attacks the lead in 50-50, causing it to deteriorate and powder.
2. Have proper-fitting size for the tubing you are working with.
3. Work must be perfectly clean and dry.

*I do it
this way...*

THERE is always a problem involved in carrying spare compressor gaskets on jobs. Lead being not only frail but also expensive, a good heavy protective covering of some sort should be used.

There are various holders for this purpose on the market, but I have found the most satisfactory medium for protecting these gaskets to be one of the small albums normally used for children's phonograph records.

The holes in the center of the pages can be covered over so that each envelope is completely closed except for the opening at the top. The hard board covers on front and back of these albums prevent the gasket holders from bending and also from damage caused by some other piece of equipment banging into them.

Jack M. Bilson, Elmira, N.Y.

4. Use a proper heating device to melt the solder. The tolerances of the tubing, or tubing and fittings, should be very close.

Be sure to use a good flux and mix it well to avoid separation of the chlorides and the petroleum grease. Be very careful and use flux sparingly,

NoDrip TAPE

SOLVES the Problem of CONDENSATION DRIP

- KEEPS PIPES CLEAN AND DRY
- PREVENTS RUSTING, THUS PROLONGING LIFE
- KEEPS FLOORS DRY AND SAFER

NoDrip Tape forms a tight fitting, sealed jacket—holds temperatures steadier—eliminates icing and frosting.



Cold water pipes and suction lines running from refrigerating machines to condensers, all joints and fittings, need NoDrip Tape.

Also used on refrigerant lines in air conditioning systems, walk-in freezers, deep freezers for home and business, and on cold water pipes in basements.

EFFECTIVE IMMEDIATELY

After you have followed the easy application directions and NoDrip Tape is in place, dripping will stop. No tools or brads are needed. NoDrip Tape is wound around pipes and pressed in place with the hands.

CONTRACTORS—Include NoDrip Tape protection in your estimates, not only to stop dripping, but for the sake of good appearance on finished installations.

MANUFACTURERS and SERVICE ENGINEERS Investigate the many advantages of NoDrip Tape for condensation control and rust prevention.

Order Through Your Supply House
Circular on request

J. W. MORTELL CO.

Technical Coatings Since 1895

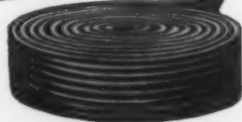
553 Burch Street Kankakee, Illinois

Circle No. 73 on Reader Service Card for more information

A roll covers about
10 feet of 1/2" pipe

\$1.69 List

Higher West of Rockies
and Canada



trying not to get any in the system. Usually some does enter but not enough to be harmful.

Use sandpaper to clean the outside of the tube and a wire brush to clean the inside of the fitted material.

The solder should be applied to the joint so that capillary action will flow the solder around the joint evenly. Do not hold soft solder at the joint while the flame is playing around it. Heat the joint first, then apply solder.

In using silver solder, it is just as important for the work to be clean and to apply the heat evenly.

Remember, do not use too much heat in silver soldering, as copper begins to decompose at about 1600 F. The temperature should be kept well below that figure.

Creating Confidence: Know Your Business

Knowing just about everything there is to know about the equipment you're servicing is essential to give your customers a feeling of confidence in you and your ability to handle their requirements properly.

Customers are bound to ask questions, and being able to answer them intelligently is very important. And to give intelligent answers, you've got to know your products from the service point of view.

Another thing—knowing your business means that you can diagnose troubles promptly, and handle them with minimum lost time and motion. And in the final analysis, nothing does more than this to raise your customer's confidence in you and your company.

Taking the time and trouble to become familiar with the equipment you work on will really pay off in customer confidence—and that means more business, and more profit, for you.

Be Sure To Set V-Belt Tension Properly

The final check to make in installing a new V-belt is to tighten the belt so that it can be depressed about 3/4 of an inch for each foot of span between the pulleys.

On most machines, such as pumps, fans, and furnaces, run the drive a few minutes and check the belt and pulleys for heat. A hot belt indicates

slippage. And always look at the underside of the drive. If the belt is moving up and down very slowly, it's too loose. If it's moving up and down rapidly and "singing," it's too tight.

A correctly installed belt will run quietly and smoothly.

On machines with compressors, turn the pulley on the compressor to the beginning of the compression stroke. If the belt doesn't slip when the motor starts, it's tight enough. But be sure it isn't too tight by checking for the amount of depression as explained previously.

*I do it
this way...*



FREQUENTLY in air conditioning it is very important to know how much water is in a well and how deep it is. To be absolutely accurate in making such a calculation, I do it this way:

I tie a small rope around a brick and then thread it through a suitable pulley which I have previously attached to a regular spring-type suspended scale. Then I let the brick down slowly into the well.

When the brick first hits the water, this contact will be indicated by a lessening of the weight indicated on the scale, due to the displacement of the water by the brick. I mark the rope at that point and then continue to lower the brick until it touches the bottom of the well. Again at this point the indicated weight on the scale will decrease, and so again I mark the rope.

The distance between the two marks will clearly show the depth of the water, and the distance from the brick to the first mark will show how far below the ground the surface of the water lies.

Carter White, Slate Mills, Va.

AUTO-LITE

... for
Temperature Indication



3-way
adjustable
mounting



Model F-1
temperature indicator

Auto-Lite offers many thermometer styles, permitting plant-wide temperature observation at low cost. Standard temperature ranges from minus 60°F to plus 750°F. Send for latest catalog showing various types.

Rigid stem or capillary tubing for EYE-LEVEL remote reading. Priced from \$22.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION
TOLEDO 1, OHIO
NEW YORK • CHICAGO • SARNIA, ONTARIO

TEMPERATURE INDICATORS & RECORDERS

LOOK to LARKIN



for
Quality

HIGH
AND
LOW BOY
MODELS

**LARKIN
WALL
HUMI-TEMP**

Quality speaks a language everybody understands. Wholesalers, dealers, and users alike know that the name *Larkin* means quality—of workmanship, materials, and performance.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

LARKIN COILS



Circle No. 76 on Reader Service Card Circle No. 75 on Reader Service Card



REFRIGERATOR

DOOR GASKETS

AND ACCESSORIES

JARROW PRODUCTS
420 NO. LA SALLE ST., CHICAGO 10

take a
closer
look
at...

**United
WIRE'S**



COPPER REFRIGERATION TUBING

UNITED means that it's the product of 83 years of precision tube mill experience and that it's produced on new equipment, by new processes and fine quality control unequalled anywhere within our industry... that it is better quality, has extra values... without expectation or demand and at no extra cost.

DEOXIDIZED means that all oxides, grease, dirt, silvers, copper dust and foreign substances common to copper tubing have been 100% removed by special processing to prepare it for use, as received, in the finest and most delicately balanced mechanical equipment or control instruments.

DEHYDRATED means that all moisture has been removed prior to sealing and Trade Marking.

Putting them all together...

"UNITED DEOXIDIZED DEHYDRATED"

means finer, the finest, Copper Refrigeration and Air-Conditioning Tube made anywhere. UDD will earn your respect and completely justify your confidence in regularly specifying it.

UNITED WIRE
& SUPPLY CORPORATION
PROVIDENCE, RHODE ISLAND

SALES OFFICES

New York	Chicago	Akron	Philadelphia
Rochester	Dansing, Mich.	Los Angeles	
Minneapolis	Pittsburgh	Springfield, Mass.	
	Hartford, Conn.		

Circle No. 77 on Reader Service Card

92

LETTERS

More on Soldering Aluminum to Copper

EDITOR:

We read with interest Mr. LeRoy Bettinger's "Letter to the Editor" which appeared in the June issue of COMMERCIAL REFRIGERATION AND AIR CONDITIONING, together with your answer.

We are enclosing a sample soldered joint of aluminum-to-copper and wish to advise that this material, as well as other types of aluminum solders of our manufacture, have been in use by this industry for several years. This particular joint was made with a torch at a temperature of about 700 degrees F. A small piece of All-State No. 39 Solder was preplaced on one side of the work together with All-State No. 39 Aluminum Solder Flux. On bringing the joint up to temperature, the solder broke down, flowing through the joint.

In addition to the No. 39 solder and flux for use with torch, we have our No. 37 aluminum solder and flux for use with soldering iron, as well as some specialty aluminum solders tailor-made for specific jobs. We are enclosing a Brazing Manual which we have put out particularly for the refrigeration and air conditioning trades, and which you may be interested in looking over.

THOMAS D. NAST
All-State Welding Alloys Co., Inc.
White Plains, New York

Seeks Information on Optical Cooling Use

EDITOR:

"On pages 110 and 111 of the 1949-1950 edition of 'The Commercial Refrigeration & Air Conditioning Marketing Handbook' there is reference made to the use of refrigeration in the removal of lenses from pitch blocks.

"We are interested in installing equipment for this purpose and we would appreciate it if you could recommend someone who has had experience in this specific application."

WESTON C. KNIGHT
General Optical Co.
Mount Vernon, N. Y.

The instance referred to in the Marketing Handbook was made, we believe, at the American Optical Co., Southbridge, Mass. We are sure you will be able to obtain all the additional details that you might be interested in from this company.

NOW YOU CAN COMPETE!

... here's your EXTRA
PROFIT line of
LECTRIK-ICE

**WATER
COOLERS**

YOUR
LOW PRICE
\$129.00

*TRADEMARK
REG. U. S. PAT. OFF.



MODEL E-550
SHOWN

UNIFLOW offers a Complete line of LOW COST Water Coolers designed for dealers EXTRA PROFITS and Customers satisfaction. Write for • FREE • "Extra Profits" brochure."

UNIFLOW
MANUFACTURING COMPANY
1513 East Lake Road
ERIE, PENNA.

"A Leader In The Water Cooler
Field For Over 20 Years"

Circle No. 78 on Reader Service Card

AUGUST, 1952 • COMMERCIAL REFRIGERATION

USEFUL LITERATURE . . .

Continued from page 56

AIR PURIFICATION IN FOOD STORAGE is the subject of this specification folder covering "Pur Air" equipment using activated coconut-shell carbon. Effect of these units on specific foods is described, and testimonials as to the effect of these units are included. Available from Pur Air, a division of American Solvent Recovery Corp.

Circle No. 117 on Reader Service Card

COMPARATIVE ADVANTAGES of its new bleed type automatic expansion valve over capillary tubes for use in systems with hermetic condensing units are outlined in a 4-page fact sheet issued by A-P Controls Corp. Illustrations include dimensional and installation diagrams, and complete selection data is provided.

Circle No. 118 on Reader Service Card

PLYWOOD PANELS for use in fabricating bar equipment, quick freeze liners, and many other applications are discussed in a brochure published by United States Plywood Corp. dealing with "Rigidized Metal Armoply." A variety of attractive patterns are illustrated and described.

Circle No. 119 on Reader Service Card

COMPLETE INSTALLATION DATA and specifications for the "Flexon" line of flexible expansion joints is contained in the new illustrated bulletin issued by Flexonics Corp. Design conditions are discussed, installation economies are listed, and operating economies are detailed.

Circle No. 120 on Reader Service Card

FOLLOW THE LEADER

in quality

refrigeration!



ICE CUBE MAKERS High production — low cost. No moving parts to wear out . . . no service headaches . . . holds 1025 cubes plus 336 cubes in trays . . . every inch a beauty.

BLUEBIRD BOTTLE COOLERS

Ideal for bars, restaurants. Features easy operating push back doors . . . easy to accommodate — only 33½" high . . . in Blue Hammerloid or Stainless Steel . . . 4' - 6' - 8' models . . . either electric complete or remote.



LA CROSSE COOLER CO.

Factory and Gen'l Offices: 2814 Losey Blvd. S. La Crosse, Wis.
Export Office: 80 Broad St., New York City. Cable Address: Eximport
Circle No. 80 on Reader Service Card for more information

Circle No. 79 on Reader Service Card ➡



White-Rodgers . . . Assures POSITIVE ICE-BANK CONTROL

Operating on an entirely new principle, this White-Rodgers Ice-Bank Control accurately maintains ice bank **by thickness** rather than by temperature.

Desired thickness of ice bank is determined by location of sensitive bulb in relation to evaporator coils. Control starts the compressor the instant the bulb is exposed to water; stops it when again sealed in ice.

Prevents over-freezing with resultant blocking of water flow and possible ruptured or distorted cabinet seams and walls.

Write for complete information.



WHITE-RODGERS



Controls

FOR REFRIGERATION
HEATING AND
AIR CONDITIONING



SEE PAGE 4

IT'S THE LAW!...

Continued from page 17

spoilage. Later, when the finance company to whom the dealer had assigned this contract sued to recover the unpaid balance, the purchaser in his defense claimed that the contract had been obtained through fraud and that in spite of any waiver he should be relieved of his obligations under it. In its decision against the finance company the Federal Court said,

"It appears that the financing of conditional sale contracts by the sale and assignment of them, is a common and general practice. It further appears that in such financing it is desirable from the viewpoint of the assignees that such contracts in their hands be free from defenses and claims by the conditional vendee against the conditional vendor. Such attempts have only been partially successful. Where a waiver of fraud clause is embodied in a fraudulently obtained contract, the fraud which vitiates the contract also vitiates the waiver clause. Therefore the waiver clause in the present case was ineffective as to the purchaser's defense of fraud."

First Acceptance Corp. v. Kennedy, 95 F. S. 861, Iowa.

LIABILITY OF RETAILER

A LAWSUIT in the Louisiana courts involved the purchase of a refrigerator. The dealer agreed to replace any defective parts for five years. No such defects occurred however, but the condensation of moisture on the inner walls of the unit was so great the water flowed out onto the floor of the room.

After a year and a half of effort to remedy the difficulty this action was brought to recover the \$575 paid by the purchaser for the refrigerator.

The dealer at the trial of the action asserted that this excessive condensation was due to the dampness of the climate which had not been taken into consideration by the manufacturer. The court, holding the dealer to be free of any responsibility for this condition, said,

"Grievous as was this fault and the resulting inconveniences, certainly this dealer cannot be charged with knowledge. He gave the purchaser the benefit of all the information and knowledge in his possession and concealed nothing. As a practical proposition it would not appear to be within reason to charge an appliance dealer with a scientific and technical knowledge which apparently was not even possessed by the manufacturers of the product itself."

Aymond v. Gremillion Bros. Implement Co., 56 So. 2d 311, La.

Buy Peerless FOR PERFORMANCE

DRIP-PUMP for Condensate on Air Conditioners



The Peerless Drip-Pump solves the troublesome drainage problem—on air conditioners, coolers, refrigerators and other machines where condensate is present—by eliminating hazardous gravity drains altogether! The Drip-Pump lifts condensate up and out, overhead... saves valuable space.

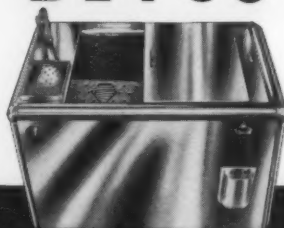
Illustration shows Model DP-2 high capacity high lift pump for air conditioner applications. Also available is Model DP-1 packless centrifugal type pump, driven by "flea-power" motor... the ideal pump for use for dome, unit or flash coolers. Both models are ruggedly built for long, hard service; easily and quickly installed. Write for full information.

Peerless of America, Inc.

1501 No. Magnolia Avenue
Chicago 22, Illinois, U.S.A.

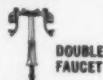
Circle No. 82 on Reader Service Card
94

BEVCO



QUALITY COOLERS YOU CAN FIT INTO YOUR LINE AND SELL AT A PROFIT

ACCESSORIES



You sell quality, trouble-free cooling in these electric units that operate wet or dry. In 3 sizes... 4, 5, 6 ft. Unobstructed interiors. Baked Enamel finish for beauty and sanitation.

SEND FOR CATALOG C-1

The BEVCO Company, Inc.

3314-28 S. BROADWAY • ST. LOUIS 18, MO.

Circle No. 81 on Reader Service Card

OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted, \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20c.

MANUFACTURER'S AGENTS WANTED

High quality, British made thermal insulation material ideal for frozen foods, cold stores, refrigeration transportation, etc. Warehoused and distributed in America by New York corporation. Exclusive territories available. Write giving complete particulars and background. Box 8152, Commercial Refrigeration and Air Conditioning.

MANUFACTURER'S REPRESENTATIVE

ATTENTION MANUFACTURERS—Aggressive manufacturer's representative seeking refrigeration equipment and parts, food store equipment and complete allied lines for representation in nine middle-western and southwestern states. Both partners thoroughly familiar with trade and experienced in establishing dealers. 34 years combined experience.—Corbin & Platz Sales Agency, C. E. Corbin, L. A. Platz, P. O. Box 8437, Kansas City, Mo.

TRAINING AVAILABLE

Course on sealed unit rebuilding trade secrets disclosing exclusive methods for all operations. \$12.50 or write for details. H. Custer, Box 98, Center Line, Michigan.

MANUAL . . .

Continued from page 87

turer, who should know the capabilities of his equipment, it would reflect upon the knowledge of the service man.

In getting back to a workable solution, since the load of the two consists of only heat leakage and negligible service load there is no reason why the equipment will not work as designed. It is my belief that the back pressure is set too low. As a result the evaporator is operating in a starved condition. Only the first tank is obtaining any refrigeration effect, and the second is merely superheating the refrigerant vapor.

If the serviceman would set his automatic expansion valve at about 35 to 40 pounds back pressure I'm sure his troubles would be over. There is no need to operate at a 10 pound back pressure as the minimum temperature requirements do not call for such a low back pressure.

I do not say that your method will not work, only that you are offering the serviceman a solution which he could not achieve.

H. TIBBITS
San Antonio, Texas

NEW METALBESTOS MAN

Rex Falkner is the newest addition to the national sales staff of William Wallace Co., manufacturers of Metalbestos gas vent pipe. He has been assigned to the company's Dallas office, headed by C. E. Blome.

Circle No. 84 on Reader Service Card



2

PRACTICAL PRODUCTS

for Service Engineers



FLO—the new chemical liquid dehydrant in the self-measuring plastic bottle. Renders moisture inert in the refrigeration system and inhibits oxidation, corrosion and rust formation. Completely stable; no change after absorbing moisture; no solids; does not powder. "You get it dry. Keep it dry—chemically."

VISOLEAK—the original leak detector for use in all refrigeration and air conditioning systems. An absolutely inert red dye containing no solids; remains permanently in suspension. Circulates freely throughout the system and instantly shows up leaking joints with a tell-tale red stain. Non-toxic, non-poisonous, non-corrosive.

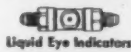


Send for Bulletin WH-51

Ask your Wholesaler for
Allin Practical Products



Capillary Tubes



Liquid Eye Indicators



Flo



VISOLEAK



Valves, Screws, Pullers

ALLIN MANUFACTURING COMPANY

1153 West Grand Ave., Chicago 22, Ill.

PARAGON

DEFROSTING TIME SWITCHES

300 M
SERIES

From
\$16.00 List



For Commercial Defrosting

• Electric Heat • Hot Gas
or Compressor Shut-Down

For

UNIT COOLERS • WALK-IN BOXES
FROZEN-FOOD DISPLAY CABINETS
LOCKER PLANTS • REACH-IN CABINETS
• FUR STORAGE VAULTS •

Paragon 300M series offers accurate, easy-to-set synchronous-motored time switches for up to 8 defrost periods per day, of two hours or less . . . one of a wide range of dependable Paragon Time Controls.

AMERICA'S LARGEST EXCLUSIVE
MANUFACTURER OF TIME CONTROLS
FOR ALL USES

MAKERS OF THE FAMOUS

de-frost-it



FOR DOMESTIC
REFRIGERATORS • ONLY **\$9.95**

PARAGON ELECTRIC COMPANY

1688 TWELFTH STREET • TWO RIVERS, WIS.

Circle No. 85 on Reader Service Card

95

NO MORE FREEZE-UPS

of expansion valves or capillary tubes!

ICE-X works like magic
SERVICE MEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.



Service doesn't falter
when it comes from Harry Alter

Jobbers: Ask for special offer!

The HARRY ALTER CO.

Exclusive
ICE-X
Distributor

1728 S. Michigan Ave. Chicago 16, Illinois

Circle No. 83 on Reader Service Card for more information
and AIR CONDITIONING • AUGUST, 1952

INDEX TO ADVERTISERS AUGUST, 1952

Ace Drill Bushing Co.	54
Acme Industries, Inc.	6
Alco Valve Co.	1
Allin Mfg. Co.	95
Harry Alter Co.	95
Anderson & Wagner, Inc.	96
Ansul Chemical Co.	4, 94
A-P Controls Corp.	Cover 3
Bailey & Perkins Co.	73
Bevco Co.	94
Black, Sivalis & Bryson, Inc.	10
Brunner Mfg. Co.	5

Bush Mfg. Co.	13
Century Electric Co.	9
Chemical Solvent Co.	7
Commercial Credit Corp.	23
Davison Chemical Corp.	84
Detroit Lubricator Co.	26
Dow Chemical Co.	41
Drayer-Hanson, Inc.	79
Eastern Industries, Inc.	54
Electric Auto-Lite Co.	91
Eston Chemicals, Inc.	66
Fedders-Quigan Corp.	21
Filtrine Mfg. Co.	60

Fine Products Co.	56
Flexonics Corp.	67
Friez Instrument Div., Bendix Aviation Corp.	17
Frigidaire Div., General Motors Corp.	22
Frigitemp Corp.	8
General Electric Co., Air Cond. Dept.	27
Glenco Refrigeration Corp.	3
Grand Rapids Brass Co.	75
Highside Chemicals Co.	61
S. A. Hirsh Mfg. Co.	73
Ingersoll-Rand Co.	Cover 2
International Register Co.	78
Jackes-Evans Mfg. Co.	12
Jarrow Products	91
Jordon Refrigerator Co.	15
Kelvinator Div., Nash-Kelvinator Corp.	57
Kerotest Mfg. Co.	53
Kold-Hold Mfg. Co.	81
Kramer Trenton Co.	63
LaCrosse Cooler Co.	93
Larkin Coils	91
Lehigh Mfg. Co.	42
Linde Air Products Co., Unit of Union Carbide and Carbon Corp.	25
Loudon Mfg. & Sales, Inc.	56
Jas. P. Marsh Corp.	68
McCabe-Powers Auto Body Co.	59
McIntire Connector Co.	69
McQuay, Inc.	19
Mills Industries, Inc.	11
J. W. Mortell Co.	90
Mueller Brass Co.	71
Northern Indiana Brass Co.	14
Pacific Lumber Co.	70
Paragon Electric Co.	95
Peerless of America, Inc.	94
Penn Controls, Inc.	30
Puffer-Hubbard Mfg. Co.	80
Ranco, Inc.	88
Reliance Electric & Engineering Co.	33
Rescor	47
Revere Copper & Brass, Inc.	50
Rotary Seal Co.	62
Sealed Unit Parts Co.	78
Servel, Inc.	18
Sporlan Valve Co.	16
Standard Refrigeration Co.	79
Star Metal Mfg. Co., Inc.	3
Superior Valve & Fittings Co.	64
Temprite Products Corp.	29, 55
Tenney Engineering, Inc.	76
Texas Co.	86
Tyler Fixture Corp.	24
Uniflow Mfg. Co.	92
Union Carbide & Carbon Corp., Linde Air Products Co.	25
United Refrigerator Co.	65
United States Air Conditioning Corp.	72
United Wire & Supply Co.	92
Viking Refrigerators, Inc.	74
Virginia Smelting Co.	20
Wagner Electric Corp.	28, 85
Wagner Tool & Supply Co.	87
White-Rodgers Electric Co.	93
Yates-American	80



IT'S GOOD SENSE!

TO SELL A GOOD Fountain
At A Reasonable Price...




"America's Choice in Fountains"

ANDERSON & WAGNER, INC.
In Greater Los Angeles
Gardena, California

Circle No. 86 on Reader Service Card for more information

IT'S ALL IN THE HEAD

the secret of No. 209 Universal Thermostatic Expansion Valve



7 OUTSTANDING FEATURES

Unique pressure-limiting mechanism with adjustable range of 0 to 55 lbs.

If pressure rises beyond normal, valve throttles automatically holding pressure to pre-set limit and preventing motor overload.

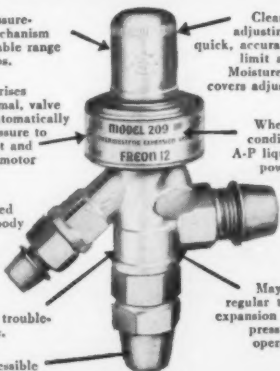
Heavy forged leakproof body. Superhard stainless valve needle, stainless seat and springs for trouble-free service.

Easily accessible superheat adjustment covers entire normal operating range. Maintains close superheat control at any operating temperature.

Clearly marked adjusting knob for quick, accurate pressure limit adjustment. Moisture-proof cap covers adjusting knob.

When overload condition passes, A-P liquid-charged power element resumes control and maintains normal operation.

May be used as regular thermostatic expansion valve when pressure-limiting operation is not desired.



Yes, the A-P No. 209 is the ideal, all-purpose thermostatic expansion valve. One easy-to-dial adjustment on the valve head provides complete, precise pressure-limit control. A valve you can use at any pressure limit . . . in any position . . . in any ambient temperature . . . on any application. Adjusts for any superheat, too.

Think of the time-, labor- and money-saving advantages of this unique valve. Use it on original equipment or for replacement service. You can't beat its practical adaptability and economy on any job.

Examine its unique construction . . . rugged forged brass body, liquid-charged power element, stainless steel needle, seat and springs. You'll see substantial reasons for the outstanding reputation that A-P has built for quality merchandise.

A-P refrigeration valves last for years of economical, trouble-free service.



DEPENDABLE
Controls

A-P CONTROLS CORPORATION

(formerly Automatic Products Company)

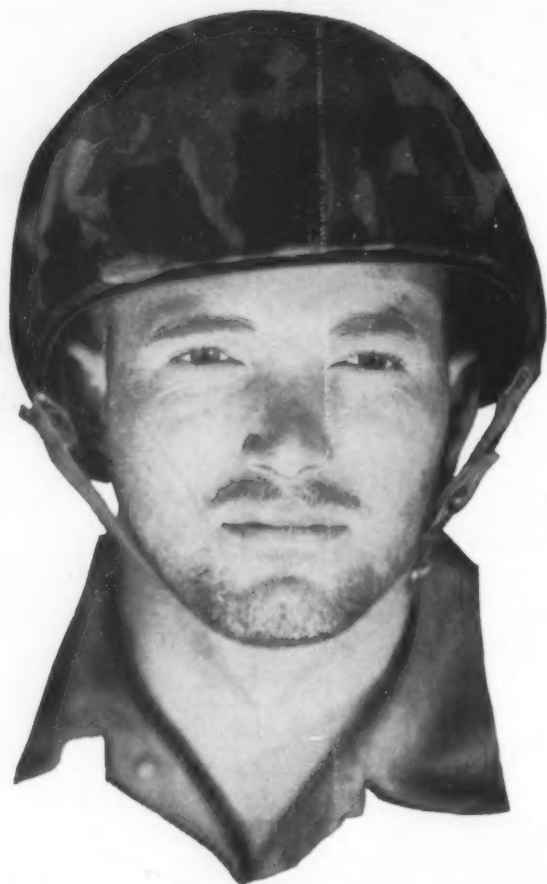
2486 N. 32nd Street • Milwaukee 45, Wis.

In Canada: A-P Controls Corporation Ltd., Cooksville, Ont.

Stocked and Sold By Good Refrigeration Wholesalers Everywhere • Recommended and Installed By Leading Refrigeration Service Engineers

Circle No. 87 on Reader Service Card for more information

First Lieutenant Henry A. Commiskey, USMC Medal of Honor



ONE SEPTEMBER DAY, near Yongdungp'o, Korea, Lieutenant Commiskey's platoon was assaulting a vital position called Hill 85. Suddenly it hit a field of fire from a Red machine gun. The important attack stopped cold. Alone, and armed with only a .45 calibre pistol, Lieutenant Commiskey jumped to his feet, rushed the gun. He dispatched its five-man crew, then reloaded, and cleaned out another foxhole. Inspired by his daring, his platoon cleared and captured the hill.



Lieutenant Commiskey says:

"After all, only a limited number of Americans need serve in uniform. But, thank God there are millions *more* who are proving their devotion in another vitally important way. *People like you*, whose successful 50-billion-dollar investment in U.S. Defense Bonds helps make America so strong no Commie can crack us from within! *That counts plenty!*"

"Our bullets alone can't keep you and your family peacefully secure. But our bullets—and *your Bonds—do!*"

★ ★ ★

Now E Bonds earn more! 1) All Series E Bonds bought after May 1, 1952 average 3% interest, compounded semiannually! Interest now starts after 6 months and is higher in the early years. 2) All maturing E Bonds automatically go on earning *after maturity*—and at the new higher interest! Today, start investing in better-paying United States Series E Defense Bonds through the Payroll Savings Plan where you work!

Peace is for the strong! For peace and prosperity save with U.S. Defense Bonds!



The U.S. Government does not pay for this advertisement. It is donated by this publication in cooperation with the Advertising Council and the Magazine Publishers of America.

COMMERCIAL REFRIGERATION & AIR CONDITIONING

